UTS

China engagement strategy 2020-2023

Working towards a targeted, resilient and future-focused relationship

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Mission statement

Delegated by the UTS International Committee, the China Working Group (CWG) aims to develop an engagement strategy with China for the next three years.

CWG considered existing relationships with China, as well as other strategic works across UTS that have a direct/indirect impact on engagement with China. CWG also consulted widely across central teams and all faculties. Conscious of the many aspects UTS engagement encompasses in China, CWG identified in-scope and out-of-scope items for the strategy in its current form. There is no doubt that other aspects can also be taken into consideration, however CWG found that the 6 in-scope items currently in the strategy are the most important to review and progress at the current stage. The strategy is meant to be a live document that should revised on a regular basis.

The broader Australia-China relationship plays a key role in the flow-on effect upon the higher education sector. Acknowledging every relationship has its ups and downs, this strategy, covering the next 3 years, considers potentially less constructive overarching periods of bilateral relations.

COVID-19 impacts many aspects of the UTS relationship with China, therefore, to some extent a COVID lens is applied in this strategy, including recovery from the pandemic as well as maximising new opportunities post-COVID.

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Executive summary

China is an important and long-standing partner for UTS, encompassing a broad spectrum of collaborations. Under the guidance of forward-thinking leadership and supported by UTS staff, UTS has done a stellar job initiating and strengthening many of its expansive relationships in China in the past few decades. To build on the success in China, in the next 3 years, this document recommends strategies for the following focused areas.

Recruitment

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Research

[redacted]or all existing research collaboration, support active relationship, and maximise opportunity when possible

- Strategically assess new partnerships and renew existing partnership based on UTS areas of excellence
- Identify and work with the best suitable partners in China, and preferably where the partnership is complementary and applicable across multiple faculties in UTS
- Leverage Shenzhen office to further extend UTS research reputation in China to a variety of disciplines

In country presence

[redacted]e and substantiate Shenzhen office through enhancing communication and collaboration between offshore presence, central university and faculties

- Identify and develop new business opportunities in synchronisation with Insearch China offices, as well as the UTS Learning Centre at SILC, Shanghai University

Short form of learning

[redacted]nities for the delivery of short form of learning, micro credential as well as broader industry engagement in the China market

- Regard study tour as a viable part of the short form of learning and its important functions for student experience, recruitment and brand building

Alumni

[redacted] engage with Alumni in China

- Investigate opportunities for UTS to offer customised short courses for its alumni for professional upskilling
- Develop China-specific alumni profile that could be used for various activities, including PR, brand building and recruitment

Marketing, promotion and branding

[redacted]eam at the earliest time possible.

- Include international marketing into the mandate of the MCU/faculty marketing teams
- Enhance communication between UTSi, Insearch and faculties on marketing and branding activities and initiatives
- Encourage faculties to have more input in international marketing

Moving forward, CWG proposes an ongoing working group (membership TBC and can rotate) to keep the strategy up to date and track progress against action items. This would be complemented by a yearly international planning meeting, focussing on key partnership countries including China, to track progress against strategy implementation and to share information. The out of scope items[1] for this initial CWG can also be considered in the future by the ongoing working group. In addition, it is important to consider the risk (and mitigation) of the relationship with China in all its aspects. This could be a separate piece of work, to be undertaken in consultation with the relevant UTS risk experts.

[1] Out of scope items are: KTP partnerships in China (not included due to pending review); the Chinese students experience and word of mouth; engagement with Chinese community in Sydney; outbound mobility strategy with China as the destination country; and Chinese student graduate outcomes

Background

UTS has a longstanding relationship and a substantive number of partnerships with China. The relationships encompass research & HDR partnerships, teaching collaborations, student and staff mobility, deliveries of short courses and joint institutes. UTS recruits in China actively, via agents and via Insearch. In 2019, 57% of commencing international students at UTS came from China, including 34.99% Chinese students articulating into UTS UG courses via Insearch Diploma or Foundation pathway (source IAMS data). At the same time, a growing number of domestic students chooses to spend time in China for studies. In the past few years, UTS has had a number of successes in seeking NCP grants to facilitate its China based mobility programs. China has been seen as one of the most popular destination countries for UTS outbound students. Research collaborations result in closer operational and HDR relationship, as well as a better understanding of the China research and innovation landscape, which contributes greatly to building the UTS brand and industry relations. UTS and Insearch China offices provide support for direct engagement with industry, government, media, partners, education agents, students and alumni. UTS ACRI provides independent research and opportunities for dialogue on the bilateral relationship with China to UTS and the wider community. The existing engagement is positive and covers a wide range of activities, it is however still possible to further maximise relationships, extend the recruitment strategy, better promote 'UTS brand' and keep looking for new opportunities in a rapidly changing environment.

1 Recruitment

The largest number of international students at UTS comes from China, via direct entry, Insearch, agent, studying in a TNE program, pathway and articulation programs. While diversification of the student body is important, maintaining strong recruitment from China is critical in post-COVID in order to mitigate the financial impact of the pandemic.

1.1 General recruitment (including via Insearch)

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Direct recruitment (offshore & onshore) is the main source of Chinese students at UTS (refer Appendix A). UTS currently:

- Hold a steady approx. 5% market share from China. By comparison, the ATN market share overall has been declining (from 14% in 2015 to 12% in 2018) while the Go8 market share has risen steadily. It emphasises the desire of Chinese students to study at universities with the best international reputation.
- Has a similar UG and PG number of students from China, 49% PG vs 51% UG in 2019. The number of UG students since 2015 has risen rapidly, indicating a trend to start overseas study younger (including via pathways and school experience).
- All faculties have seen a rise in student number since 2015 with FEIT and Business having the fastest growth.
- Works closely with Insearch for recruitment pipeline as well as marketing and communications.

Future direction

While UTS has strong recruitment results over the last 5 years, COVID 19 revealed an opportunity to consider a China-specific recruitment strategy, spanning the next 3 years and working across all Faculties. This strategy should include:

- Enhance information sharing: faculties are looking for more in-depth market intel, and recruiters need more in-depth info from faculties. This can be facilitated via:
  - An integrated approach to yearly activities (as well as more promotional events), including leveraging academic travel and in-country presence and faculty attendance to (virtual) events
  - Yearly market and faculty update forum for China and possibly other key recruitment markets
- Faculty to lead a regular systematic and focused review of academic programs with an aim to check the attractiveness and suitability to the China recruitment market, noting that other main markets will also need to be taken into consideration An annual review is preferable although faculties are encouraged to develop their own review schedule. This review is best to be done with the involvement of UTSi recruitment team as well as relevant international person/s within the discipline. In way of doing this, it can also reveal:
  - Needs to introduce in demand new courses to reflect UTS research and teaching strength
  - Opportunities to optimise length and structure of existing courses
  - Opportunities to update some key courses, in sync with or in advance of market sentiment
- Review and optimise China-specific scholarships to:
  - Maintain UTS competitiveness and reflect dynamic market needs
  - counter COVID-19 impact; and strategise for post COVID years
- Develop a high school engagement & recruitment strategy for China. There is an indication in numbers, via agents and external information (e.g. Austrade) that currently students start considering and preparing for an international education experience at an earlier age. For example, students enrol in an international high school with a view of completing university studies online. UTS does already recruit directly from some high schools, but there is opportunity for a more consistent and long-term school engagement and recruitment strategy. Following can be considered in this strategy:

- Identify specific schools for UTS to work closely with
- Collaborated UTSi and Faculties engagement with schools
- Targeted recruitment and conversion including targeted parents, school teachers and counsellors engagement and targeted scholarship
- Enhanced onboarding and pastoral care for schools students after commencement

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- Continue current online recruitment efforts including:
  - Coordinated UTSi and faculty efforts as appropriate
  - Increased number of activities for target audience (e.g. disciplinary-based event; special info sessions for parents and others)

- Continue to work closely with Insearch to:
  - Implement the China Digital Strategy including UTS China website and WeChat app, both for initial interest of students, as well as for the conversion of students
  - Leverage Insearch's strong in-country presence and marketing/PR expertise and contacts
  - Maximise new programs such as the Insearch Pre-Master program, targeting students in China that currently are not yet considering UTS as a study destination
  - Continue the joint effort in promoting UTS programs among the Insearch students to maintain the interest and maximise the progression rate
  - Extend and deepen the geographic footprint in China such as 2nd and 3th tier cities and Northern and Central part of China, in collaboration with Insearch as needed
  - Collaborate and develop innovative counsellor engagement program to encourage high level of product knowledge and brand loyalty

- Continue to investigate new ways of attracting and converting students during the pandemic period via Overseas Online Learning Centres (OLC)
  - As an important development in responding to the pandemic, the OLCs aim to mitigate lower student number and to provide students with opportunity to study with UTS in a better facilitated environment. The OLCs were carried out in China with a view to completing later in Sydney and this model has since grown in importance given the uncertainties of the COVID impact
  - It is important to continue the OLC model in China during the COVID period, this model should also be considered and reviewed in the post-COVID period for its suitability to continue. The post-COVID review will be affected by a variety of considerations such as the process, partners, numbers, visa policy and Chinese MoE policy on online learning in the post COVID period.

- Continue to
  - Maximise promotion and PR of UTS, to feed into recruitment efforts. This requires a more planned approach to align recruitment and marketing/PR activities.
  - Improve the collaborative effort in conversion activities

1.2 Pathway/articulation and Transnational Education (TNE)

Both TNE and pathway are frequently used to recruit student by collaborating with overseas universities. Majority of the TNE and pathway programs include a period of study with the home university and a period study with the host university for the purpose to obtain one or two academic degrees. The main difference lies in the compliance and operation. In particular, TNE tends to require a higher level of involvement from UTS, e.g. for UTS academics to deliver teaching at the partner university, or to be closely involved in the recruitment activities run by the partner universities. All TNE programs need certain level of government approval, e.g. MoE approval. TNE students can choose to complete the UTS component by coming in Sydney or staying in China. In comparison, pathway/articulation programs are more straightforward, which concern more on the RPL recognition. Pathways appear to be more flexible in delivery and do not require government approval in general.

TNE and pathway teams are currently separated at UTS, which works given the differences on operation and compliance. However, since both programs share the same objective (recruitment) and main feature (cross university collaboration), it is also possible to consider combine these two models under a single recruitment umbrella. This strategy chooses to separate TNE and pathway based on the current admin model at UTSi.

1.2.1 Pathway and articulation programs

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Currently UTS has 9 active pathway partners in China, mostly with Business and FEIT, and most operate under a 2+2 model. Most students have come from a small number of pathway providers, with smaller numbers coming from individual other partner institutions. Besides those 9 partners, there are other pathway partnerships that were set up that have resulted in very small or no numbers (refer Appendix B). New partnerships are currently also under development, including in Guangdong (via an education agent) that has the potential to results in strong cohort numbers.

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Future direction

Going forward, UTS could consider developing a pathway strategy to maximise current partnerships and create best partnerships and models collaboratively by UTSi and Faculty. Following shall be considered:

- Existing pathway partners to be considered for pathway arrangements with other faculties where possible
- Increased support for partnerships from faculties, including helping partner universities in the area of academic capacity building
- Considering new models as appropriate for existing / new partners in China
- Consider new models for existing partners where the current model does not result in an active pathway student stream
- For faculties where limited pathways currently exist, consider if there would be appropriate partnerships that could result in strong student cohorts
- Consider pathway-specific package for students and partner universities, e.g. specific scholarship / offer of subsidised study tours or virtual short courses

1.2.2 Transnational Education (TNE)

UTS has strong TNE arrangements in China, as outlined below. The purpose of TNE arrangements are multi-fold: to recruit and teach students overseas without the need to come to Australia; to offer pathway options; to promote the UTS brand overseas; to strengthen relationships with the university partner and as a result, build relationships with local industry partners.
These arrangements are governed by its own strategic leadership committees, which also set the strategic direction and monitor the operations of these arrangements.
Currently TNE arrangements do not encompass all faculties. There may be options for other faculties to consider a model and partner, based on potential projected student numbers and broader impact of the relationship.

- SILC (SHU)

The SILC program is a cooperation between UTS and Shanghai University and is a longstanding program. Insearch, the Faculty of Business and Engineering & IT are involved in this relationship. Students can study fully in China or choose to undertake a pathway program to UTS.

A recent review of the SILC scholarships aims to increase the transfer rate to UTS. The current upgrade of the UTS Learning Centre at SILC aims to form a closer collaboration, better management of all UTS and Insearch programs, enhanced recruitment and supervision of jointly appointed as well as support to FIFO UTS staff and better industry engagement, more short courses and micro credentialing, and regular report to both universities.

Shanghai University is a research partner to UTS faculties, in particular to FEIT, as well as Science and FASS. There could be potential to expand the relationship to other faculties, as consider new pathways in other degree areas. In addition, UTS, as a study destination, is under-promoted at SILC currently. This strategy is therefore suggesting a stronger UTS branding and promotion on campus in the next 3 years.

- Hebei Normal Joint Program

The Faculty of Science teaches subjects into this program, where students have the opportunity to undertake a pathway to UTS. This is a relatively recently established joint program that could result in positive cohorts of students to UTS. The joint program also is important in terms of brand recognition and PR. Results are to be seen in the near future.

- NEU Joint Institute: Sydney Smart Technology College (SSTC)

This is an MOE approved program. NEU and UTS will co-deliver the UTS engineering and statistics curriculum at NEU. Students can either spend 4 years at NEU to graduate with a NEU degree, or pathway to UTS following completion of 2 or 3 years at NEU. Drawcards to students in this program are:

- Inclusion of UTS subjects in the joint curriculum, and exposure to practical UTS teaching
- Opportunity to pathway to UTS and gain both a NEU UG and UTS UG or PG qualification
- Opportunity to, at a later stage, participate in UTS-NEU joint research activities

The SSTC will have cohorts of 300 students per year pathway to UTS s.2.1.3 . The SSTC will be an up-front investment and strong conversion efforts will be needed to maximise students taking up the pathway options but could result in significant student cohorts. The SSTC also plays an important role in UTS brand building in northern China; and in setting up considered industry partnerships, in this case NEUSoft, which can result in joint academic work and student research projects.

- EIC Academy

Insearch in partnership with EIC Group one of both UTS and Insearch's largest agents, delivery the academic English program in Guangzhou and Beijing. This a profitable commercial venture for both parties and is a language pathway for students prior to study at the Sydney campus. It also provides language training support to the UTS pathway program in Hebei.

2 Research

2.1 Research partners, models and areas of focus

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Research collaboration with Chinese partners, institutional partners and industry partners, has increased substantially over the years.

- Contract research - Joint research contributes to research income. In 2018, the most significant funding year, collaborations with China resulted in approx. AUD$5.5 million (refer Appendix C). Joint publications as a measure of collaboration are strong. In 2019, there are around 600 joint publications that include UTS researchers where the primary country of funding (funder) is China. Joint research also contributes to growth in rankings; UTS brand building in-country; greater bilateral understanding and closer cooperation; and increased opportunities for industry engagement.
- Joint Research Centres (JRCs) - In terms of current formal agreements, UTS currently has 19 Joint Research Centres (JRC) in China, including most recently a Joint Lab with Shanghai University. Some of the JRCs achieve substantial joint publications, joint supervisions, research income, but this is inconsistent across the JRCs.
- KTPs - In addition, the UTS KTP comprehensive KTP partnerships have resulted in substantial bilateral academic movement and deepening and broadening of collaborations. The KTP program and partnerships have recently been reviewed, the result of which may give further insight into existing China KTP partners.
- The recently developed 'International Research Engagement Framework' guides international research engagement and as such is an excellent resource for staff considering establishing partnerships in China.

Risk management - there is risk attached to some of the research engagement with China, more so in some areas than others:

- Research UTS undertakes needs to align with the Guidelines to Counter Foreign Interference in the Australian University Sector. Work is already being undertaken by UTS to ensure compliance, including for research with China. Where this will be important to take into consideration is when setting up new research collaborations, and when reviewing and renewing existing agreements
- While the 'International Research Engagement Framework' aims to be an overarching guideline for international research engagement, it also aids with the process of ensuring due diligence and risk assessment of new university and corporate partnerships.
- Defence Trade Controls are already managed by existing research approvals via the Research Office but should be continued to be highlighted to researchers when first considering a partnership.
- IP: because of existing due diligence processes and relevant clauses in agreements, IP is safeguarded in this respect.

Future direction

To date, perhaps with the exception of the KTP arrangement, there has been a less strategic approach to establishing some of the formal agreements. Many of these are based on individual researcher relationships. This is a valid way of setting up collaborations that works well in many examples. However, going forward, a more strategic view on existing and new partnerships may strengthen the engagement with China including the following areas:

- Existing partnerships/ partnership agreement renewals
  - Focus on the existing partnerships that have had proven impact; the ones where there is potential for cross-Schools and cross-Faculty collaboration and in this case try to extend the relationship to colleagues
  - Not renew partnerships where there are either limited proven outcomes or where a partnership is no longer desirable
  - JRCs should have consistent and yearly reporting mechanism, reflecting on achievements and impact
  - A review of the current JRCs is imperative with a goal to establish guidelines in partnership due diligence, assessment & approval, resourcing, KPI setting, management, review & reporting as well as disestablishment

- New partnerships
  - When considering new partnerships in China, the 'International Research Engagement Framework' research engagement principles should be followed in first instance noting that the implementation of this may differ across faculties
  - Avoid having a large number of partnerships that are focused on a single bilateral researcher relationship, it will need to be highlighted from the start that academics on both sides are expected to work with colleagues where possible, and broaden the relationship from the start to include multiples Faculties or disciplines

- Partnership management
  - Encourage pro-active engagement in areas of UTS particular research strengths. To date UTS has extensive research collaborations in computer science, AI, robotics. While these are some of the UTS strengths where we want to continue to operate, there are other fields where we can drive partnerships in new areas, to achieve a more balanced and less risky portfolio or research engagement. Areas mentioned at CWG discussions are 'Environment and Clean Energies'

and 'Medical Technologies' however Faculties could recommend most suitable areas for this purpose, noting these should also feed into research needs in China.
  - In order to reach alignment across UTS on areas to focus attention and to decide which partners to work with, an ongoing working group could facilitate discussion and following actions. This working group would research engagement in China as well as in other countries. This more focused international and China engagement will sit under the broader umbrella of the existing UTS Research Strategy that already outlines some of the focus areas.

- Industry partners
  - Many UTS researchers already work with industry partners on research projects and grants. In terms of industry engagement, the broader research engagement outlined above apply.
  - The UTS Shenzhen presence should be leveraged across faculties to connect with industry partners

- Promotion of UTS research capabilities. Having increased its rankings rapidly in the last 15 years, UTS started to gain a stronger research reputation in China, particularly in the highly ranked disciplines. There is however room for further improvement of promotion of UTS research capabilities, via:
  - Shenzhen office that is in an ideal position to promote to university partners and industry partners
  - Increased PR efforts: maximising key researchers and their excellent reputation in China-specific planned PR opportunities
  - Academic and research student mobility already is an effective way to promote collaborations and can tie into increased PR efforts. When key researchers travel, ensure we maximise their PR exposure.

2.2 Collaborative PHD degrees and HDR students

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UTS currently has 16 collaborative PHD agreements (JDDs) with universities in China. Together with HDR students coming from the KTP partners, there have been around 103 students enrolled in collaborative PHD programs from China (status "Admitted, Under Examination", "Passed") out of over 150 applications. Collaborative PHD degree agreements apply UTS-wide, however most were proposed and supported by FEIT. In addition, 372 students from China are currently enrolled in a non-collaborative degree program (refer Appendix C).

Researchers by and large note that HDR students play a pivotal role in conducting research, strengthening partnerships with Chinese universities via co-supervision, and increased joint publications. Researchers also note that in some areas, it is in fact very difficult to attract local students to undertake a PHD, while students from China are well prepared for the endeavour and keen to pursue academia as a career. The UTS Graduate Research School, together with faculty representatives, attends the yearly CSC fair, an important source for stipend support for Chinese PHD students. On some occasions, UTS provides a top-up amount to support the external stipend students receive.

Currently, as a result of COVID-19, some students are unable to commence their PHD study without a student visa, and mitigation of this could be considered.

Future direction

- Extend the collaborative model to include other faculties, with appropriate university partners in China. Noting that, in this model, UTS could cover the IRS tuition scholarship if students receive a stipend scholarship from the Chinese university, or from an external source.
- For existing collaborative PHD degrees, while information is available on the UTS website on some of these, consider methods for further promotion of these degrees to prospective students, in order to attract the highest quality students.
- A review of current collaborative PhD programs, with a goal to establish guidelines in programs due diligence, assessment & approval, resourcing, KPI setting, management, review & reporting as well as disestablishment. Tuition fees and stipends (including top-ups) can be a part of this review.
- For newly proposed collaborative PHD degrees, ensure proposers from the start have colleagues at UTS and the partner university involved, so the agreement applies to and is promoted across multiple faculties.
- Recently a new model has gained interest from university partners in China, where students complete a single UTS degree, receive IRS tuition scholarship if the partner provides stipend support (and students meet academics and language requirements). This model is popular as universities in China set a maximum number of students that one researcher can supervise, hence limiting the overall PHD positions. UTS could propose, to select partners, a model where an UTS scholarship is available only for a certain percentage of applicants, and the partner pays the UTS tuition fee for the other percentage of students.
- Post-COVID as well as longer-term, consider the option of a PHD model where students could commence (and possibly complete) a PHD degree without a student visa. Appropriate mechanism, requirements, arrangement and agreements need to be discussed further
- Industry PHDs: if relevant to faculties, a model of developing a (collaborative) industry PHD program with select partners in China could be considered on a faculty-by-faculty basis.

- As part of the Fit for 2027 projects, given recent lengthy delays in visa processing, exploration of an offshore PhD program as well as offshore to onshore transition mechanism is currently underway. UTS Shenzhen Institute can be utilised as an OLC for HDR students in China.

Good practice example: active research via UTS-SHU Joint Research Laboratory

FEIT has a strong relationship with Shanghai University, including via the recently signed Joint Research Laboratory of Machine Intelligence. This Joint Lab absorbs the administration of the previous UTS-SHU Joint Research Centre for Wise Information Systems (WIS). WIS was established in 2015 and proved successful in establishing long-term co-operation and collaborative research results that were published in leading journals. Building on the success of WIS, the new joint laboratory brings together more academics from broader areas within computer science, to continue building research excellence, including via joint research projects and HDR supervisions. The Joint Lab also aims to offer a more streamlined approach to governance and administration of joint research with SHU. The joint research lab complements other joint activities with SHU.

3 In-country presence

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The UTS offshore offices were set up with the intention of optimising the UTS in-country relationships and opportunities for recruitment and research (refer Appendix E).

- Beijing Ltd

The Beijing office focuses mainly on support for KTP, pathway arrangements, communications, media & social media, recruitment, alumni, and government relations. The team in Beijing also provides market intel. Insearch China staff including recruitment and admissions are co-located There is scope to further strengthen the relationship with faculties, and this may be most productive tying into the broader UTS China recruitment and pathway strategies and plans. This support for faculties function is to be explored further.

- Shenzhen Ltd

The Shenzhen presence focuses on research contracts and further strengthening research partnerships. Currently FEIT and Science have the most active projects running and leads via the Shenzhen presence, linked to those research areas where most Chinese interest lies. In future, other faculties can work closer with the Shenzhen office to explore opportunities in their preferred research areas, and to be decided who at UTS should be approached for this.

- Insearch Shanghai Limited

With offices in Beijing, Shanghai and Guangzhou, Insearch has a strong presence in China. Insearch offices focus on recruitment. Insearch already works closely with UTSI.

Future direction

- Further strengthened engagement between UTS – Insearch; and between UTS – Insearch – Faculties, including leveraging Insearch and UTS offshore presence.
- UTS faculty engagement: maximise opportunity for student recruitment and PR of travelling UTS academics in China. Faculty updates in terms of new programs / research achievements / other news are also important to attract new students and for broader UTS brand building in China.
- Alumni engagement: Alumni stories send a strong message to prospective students and local alumni could be leveraged more
- Recruitment and PR: noting that there is the need for a more planned and formal approach to recruitment activities and PR activities. A shared calendar across Insearch, UTSI and faculties could be a start to a more planned and targeted approach.
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- Regular updates from offshore offices where possible, on matters ranging from market intelligence to its recent activities, or potential business opportunity, or anything relevant to the university's positioning in the country, so ideas and practices across the units can be shared.

4 Short form of learning

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UTS currently offers a range of short courses and executive education programs to its students, alumni and partners. Study tours have traditionally been quite popular for Chinese clients, mostly managed via an education agent, often carried out through the study tour team at UTSI (or earlier Access UTS). s.2.1.3 .

Future direction

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5 Alumni

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Alumni group in China is important for broader relationship building, brand building and recruitment. A strong alumni story sets an excellent example to students and parents of what is possible by completing a UTS degree in terms of career outcome, which is an important consideration for choosing overseas study. Alumni connections also play a vital role in philanthropy.

An alumni strategy is currently operational and that includes China as a key market, with its own strategic approach. Alumni groups are already active in China. UTS also holds regular alumni events. In addition, alumni page will be released shortly on the new Chinese-language UTS website, thereby highlighting Chinese alumni achievements to prospective students

Future direction

In addition to the existing strategy and activities, there are a number of actions that can complement the existing alumni strategy and efforts:

- Alumni enjoy connecting with UTS senior leaders and researchers. Faculties to inform alumni when outstanding academics travel to China to fully leverage their travel, e.g. by hosting a small but strategic dinner
- Offer select short courses to alumni, including from China, for professional upskilling
- PR that includes UTS alumni are a good opportunity to strengthen the UTS brand. Currently in planning phase for (virtual) panel events later in 2020 and potentially for next years on a more regular schedule. Could consider such events in collaboration with key partners in China
- Opportunity to develop more China-specific alumni profiles that could be used for various activities, including recruitment

Good practice example: Collaborating with Law Alumni in China

The law faculty has been working closely with its alumni in China on creating internship opportunities for current law students. The number of law internship opportunities in China has grown from 2 programs in 2017 to 10 programs in 2019. All these programs are directly or indirectly created and supported by law's alumni in China. Working closely with UTSi mobility team and law's China alumni, the law faculty was success on receiving a 3-year NCP grant to support law students' travel to its China internship programs. Building on the close relationship with its alumni in Shanghai, law faculty conducted a competition named *Law on Street* in 2019 in conjunction with Dentons (a top tier international law firm in Shanghai). Dentons was brought in by a key alumnus who is currently a senior partner at Dentons Shanghai. The LoS competition was successfully carried out with more than 40 Chinese law universities/faculties participated and more than 5000 online participations.

6 Marketing, promotion and branding

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Currently, there are limited resources for international marketing, promotion and PR at the university level, especially for international recruitment. This situation improved slightly from late 2019 as the result of creating the new role of UTS International marketing manager although this role and its team are still relatively small at this stage, but this is a pleasing start.

The approach to work jointly with Insearch on international marketing is a good strategy, both UTS and Insearch can leverage existing resources and to produce marketing deliverables to represent the entire university more effectively. The Joint China Digital Plan was a good example. It is also pleasing to note that UTSi and Insearch will jointly action on other activities in the near future. The Joint China Digital Plan includes social media as an element, noting that a broader China social media strategy should be considered in its own right.

International marketing at the faculty level is currently at a trial period, starting with FASS and Business in 2020, to be rolled out to other faculties as resources become available. MCU marketing teams at faculty do not have international marketing as part of their default role and there has been limited resources obtained for international marketing at the faculty level although the need to do disciplinary based marketing has been increasing in the market. Faculties are dealing with this matter with great difficulties in general. It is worth noting that the international marketing manager started to provide an increased level of marketing support to faculties since 2020 but the increased support is selectively provided so majority of faculties do not receive the same level of support due to limited resources.

Future direction

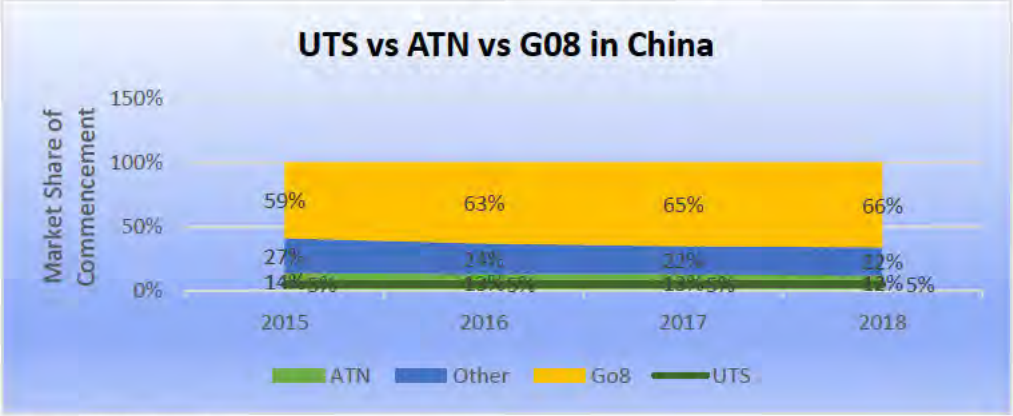
Moving forward, university will benefit from the following actions:

- At university level, build up the international marketing team at the earliest possible time, to plan and lead all the university level marketing, promotion and PR activities. This includes developing a social media strategy (in addition to current UTS-Insearch Joint China Digital Plan) that notes and where suitable combines the current China social media approaches across faculties – UTSI – Insearch, to have one coherent and planned social media approach
- At the faculty level, include international marketing into the mandate of the MCU faculty marketing teams for faculty marketing team to plan and carry out international marketing actions together with faculty's international team
- Set up an efficient communication scheme between the faculty marketing team and the central marketing team
- Improve joint actions between the central marketing team and recruitment team. The central marketing team to take the lead to organise meetings with faculties, researchers etc. to brainstorm about messaging in China
- In terms of media/promotion/PR, recommend identifying 'China Champions' that have a strong message for China, perhaps people that already have a strong profile and that work well in the media. Aim is to have a planned number of yearly PR events that we can supplement with more ad-hoc news
- Further on the UTS and Insearch joint China Digital Strategy, recommend outlining the UTS and Insearch marketing, promotion and PR strategy on a yearly basis to faculties, including planned key events, and how this connects to the recruitment strategy and recruitment activities. Faculties could provide input in key messages they want to share (e.g. about particular degrees, particular research areas) and UTS/Insearch can share market intel on what works particularly well in-market to promote UTS. This could be beneficial in terms of student recruitment, but also more broadly in terms of UTS/Insearch brand building

Appendix

Appendix A: Recruitment data

Market share:
UTS has maintained the 5% share in China market from 2015 to 2018 against ATN University's decline from 14% in 2015 to 12% in 2018.



Source: HEIMS Datamart

Growth

UTS' overall growth in International Commencing Coursework (excl. off-shore courses) students in the last five years was driven by China, which grew at a faster rate than commencements from the rest of world.

Headcount of International Coursework Commencements by Cohort and Intake Year (Nationality: China)

Cohort	Coursework Total					
	2015	2016	2017	2018	2019	CAGR
UTS	1,640	2,078	2,469	2,734	2,873	**14%**
NSW	12,839	16,295	18,706	20,301	22,404	**12%**
Australia	33,959	41,110	48,922	54,195	56,804	**12%**

Source Austrade MIP data derived from PRISMS; **CAGR** 2015-2019 Compound Annual Growth Rate represents the equivalent annual YoY growth rate for the indicated period if growth had followed a linear trajectory

UG enrolment
UTS UG new enrolment increased faster than PG increase rate. In 2017, with the trend of "go earlier, go younger" in China, for the first time, UG commencement outnumbered PG. The UG's increase was driven by Insearch pathway and direct entry from high schools.

Headcount of UTS International Coursework Commencements by Level and Year (China)

Study Level/Cohort	2015	2016	2017	2018	2019
UG	702	1,076	1,317	1,380	1,503
PG	1,042	1,154	1,252	1,457	1,449
Coursework Total	1,744	2,230	2,569	2,837	2,952
PG Percentage	60%	52%	49%	51%	49%
UG Percentage	40%	48%	51%	49%	51%

Source: iAMS

Overall trend 2015-19
Business and FEIT have taken the lead with the steady increase in from 2015 to 2019. Although a smaller scale, Law and Science have seen the increase as well.

Headcount of UTS International Course work Commencements by Faculty and Year

Faculty	China Share of Coursework Total					Coursework Commencement				
	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Business	s.2.1.3									

DAB	
FASS	
FEIT	
FTDi	
GSH	
Health	
Law	
Science	
Total	

Source: iAMS

Popular courses

The popular courses at UG level diverse among Business, FEIT, FASS and Health while PG popular courses are mainly within Business.

Headcount of Top 12 UTS Coursework Courses from China in 2019

Course Code	Level	Course Name	2019 Commencement
s.2.1.3			

Source: iAMS

s.2.1.3

Appendix B: Pathway partnerships

There is a steady increase from pathway providers (non-Insearch). Up to 2020, UTS has 9 active pathway providers in China. These providers secured high conversion rate students via the established channel.

Headcount of UTSI pathway commencements by Year (non-Insearch, China)

App Status/Year	2017	2018	2019
Acceptance	63	73	117
Application	113	114	176
Conversion Rate	56%	64%	66%

Source: iAMS

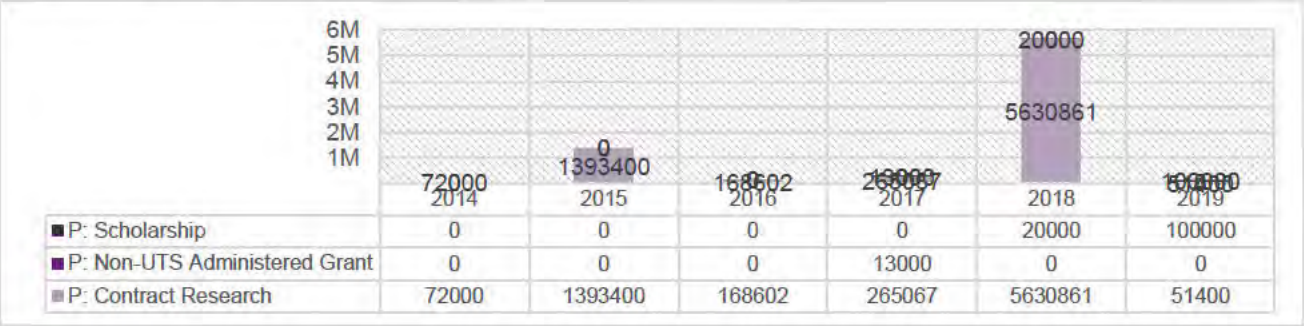
Appendix C: International Research with China

UTS's research portfolio with China has grown from 2014 to 2019. The prosper of this growth is likely due to China's invest in science.[2] This summary provides an overview of the research activities by the source of funding as listed in Research Master.

Total funding by source

The below chart represents the total funding by source, which includes the categories Contract Research, Non-UTS administered Grant and Scholarship. The Faculty with the most robust research links with China is the Faculty of Engineering and Information Technology (FEIT).[3]

Figure 1. Funding type by start year (Project start date)



	2014	2015	2016	2017	2018	2019
P: Scholarship	0	0	0	0	20000	100000
P: Non-UTS Administered Grant	0	0	0	13000	0	0
P: Contract Research	72000	1393400	168602	265067	5630861	51400

Contract Research represents the majority of the research activities, with 2018 being the most significant funding year; UTS received approximately $5,650,860. In 2017 UTS successfully participated in one research project via a subcontract from the National Natural Science Foundation of China (NSFC). NSFC is one of the most transparent research funders in China. It has implemented a rigorous and objective merit-review system to fulfil its mission of supporting basic research, fostering talented researchers, developing international cooperation and promoting socio-economic development.[4]

Funding received by funders

The table below demonstrates funding received by funders (organisations) from 2014-2019. China Electronic Technology Cooperation denotes UTS's most significant support for research activities followed by Huawei Technologies and Zhejiang Zhiyu Information Technology.

Table 1. Total funding by organisation

Organisation	2014	2015	2016	2017	2018	2019
s.2 1.3						
Grand Total	**$72,000**	**$1,393,400**	**$168,602**	**$278,067**	**$5,650,861**	**$151,400**

Joint Research Centres (JRC's)5

It's important to note that a preliminary report initiated by David Beins, indicated that FEIT currently leads the faculties for the number of JRC's (19 + 2 under discussion). While we don't have an accurate representation of these centres in the Research Office Research Master System, several research activities are linked with established JRC's with Chinese Collaborators.

Collaborative doctoral students

Currently 16 China mainland institutions hold current collaborative doctoral degree agreement with UTS. Below is the total student number came through, including "withdrawn" and "lapsed", and some agreements expired, i.e. SYSU, and Hunan University.

[2] https://www.nature.com/news/china-by-the-numbers-1.20122
[3] My Proposal records were checked in Research Master randomly
[4] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6614322/

[5] A JRC is established by a faculty upon request by one or more researcher(s) wishing to collaborate on an on-going basis with another individual, group or research centre usually located overseas.

Partner Institutions in China	Count of UTS Student
BIT	42
BJTU	5
BUPT	18
CUGB	1
Donghua University	1
ECNU	2
Fuzhou University	2
Hefei University of Technology	1
HIT	1
Hunan University	3
HUST	6
NJUPT	7
NPU	7
SCUT	3
SHU	27
SJTU	13
Sou hwest Jiaotong University	1
SYSU	2
UESTC	9
Xiamen University	1
Xidian	5
Grand Total	**157**

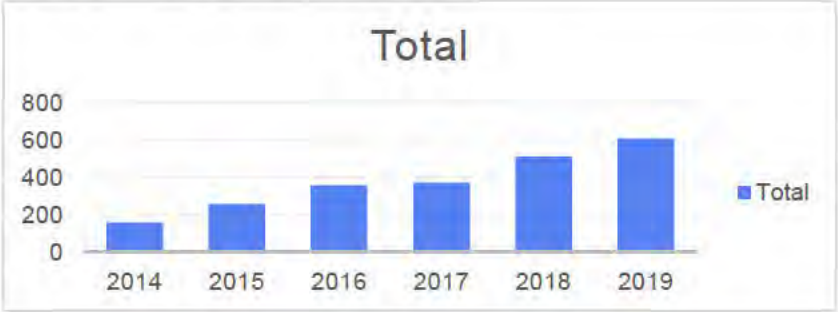
Out of total current 2119 HDR students, for single research courses, 372 are enrolled in single PhD program, including 19 SUSTech UTS Joint program candidates. 21 Mainland China students are currently enrolled at Master by research courses:

Row Labels	Count of Student No:
s.2.1.3	
Grand Total	**21**

Publications

Figure 2 represents the number of journals published per year (2014-2019) that include UTS researchers where the primary country of funding (funder) is from China. This data is a high-level overview; a deep dive of the data will require considerable time to review to avoid misrepresentation (counting publications multiple times). It is essential to recognise the number of publications with China, as China has overtaken the U.S. in the number of science publications produced.[6] For UTS, it is also vital to know where and with whom researcher are collaborating to steer in the same direction.

Figure 2. Number of UTS journal publications from Chinese funders



[6] https://www.nature.com/articles/d41586-018-00927-4

Appendix D: UTS China office - Key Functions

UTS Beijing

- UTS branding and profiling in China
- Key Technology Partnership collaborations
- Media and communications especially new and digital media
- Support other UTS projects and work lines in China such as recruitment, OLC, TNE & pathways
- Support Faculties' China development (particularly on recruitment and partnerships)
- Identify and explore new business development opportunities, provide market information

UTS Shenzhen

- Provide access to future research and commercialisation opportunities in the Greater Bay Area and other regions in China
- R&D and contract research across the fields of innovative mechatronics, computational intelligence, smart cities, and additional disciplines over time
- Collaborative HDR
- Support student work experiences, internships, start-ups

Appendix E: Insearch Online Training

Insearch Shanghai office has a special position, which is responsible for delivering systematic and consistent online training to agents in the areas of product and admissions knowledge and key selling points. This is to address the constant change of counsellors in the agent offices and maximise UTS and Insearch exposure via this regular and on-going online engagement. Here is the training summary of 2019.

Month	No. of training	No. of attendees	No of partner involved	Training content
February	3	124	3	Scholarship, VEPT, Leadership, Admission update, course briefing
March	7	272	7	1. Scholarship, VEPT, Leadership, Admission update, course briefing, overqualified 2. Application and payment tips, GTE/GS, update international curriculum entry requirement, package CoE etc. 3. Insearch product training
April	1	10	1	UTS and Insearch KSPs, Insearch products
May	2	66	2	Scholarship, product knowledge, Con CoE, U18 student accommodation, Overqualified, WeChat pay and Ali Pay
June	2	39	2	Business, IT, Engineering, Design and Communication Course highlights, pathway and other Insearch updates
July	5	218	5	1. New counsellor training (UTS ranking, Insearch product, UTS big five and pathway 2. UTS Big Five and Insearch Pathway, Insearch Update (SOP, Overqualified, U18 student accommodation, new payment)
August	3	67	3	1. UTS Big five, updates of homestay, payment and SOP 2. Admission updates (GTE, COE), scholarship, Leadership, My UniLife
September	3	89	3	UTS Law and Insearch pa hway
November	1	6	1	UTS Big Five and Insearch products
December	7	153	7	Scholarship, Insearch update (nursing, architecture), Entry requirement (international incl), My UniLife, Student support
Total	**31**	**920**	**34**	

SENIOR EXECUTIVE MEETING (SEM)

MEETING DATE: **7 May 2020**

SPONSOR'S NAME: **Iain Watt, Deputy Vice-Chancellor (International)**

AGENDA ITEM xx: **SEM China Working Group**

Background

Earlier in 2020, SEM requested the establishment of a working group to act as a vehicle to capture a whole of university picture with respect to various activities in China, a forum for discussion, collaboration and identification of issues to address. The first meeting of the 'China Working Group' took place on Tuesday April 14th 2020. A Terms of Reference for the Working Group was also agreed (Attachment 1).

Purpose

The China Working Group recommends the members of the Senior Executive note the summary below, which reports current key China related activities by UTS, identifies issues and impacts of the bilateral relationship upon UTS.

Summary

UTS has a long and productive engagement with China, a sector leader in Australia not only in terms of history of its engagement, but also of its breadth and depth, as well as its diversity. Below sections identify key aspects from across the areas of discussion at the first working group meeting. The paper also highlights some issues for further work.

COVID-19 dominates current geopolitical and economic issues with China, deeply affecting UTS. Not only there is no sign of abating but rather all likelihood of deterioration. ACRI noted that COVID-19 further complicates the bilateral relationship. The pandemic may has been used as an opportunity by some in Australia to not only push their grievances against China but universities as well, seeing the two as connected. UTS cannot expect a clear easing to help in its China engagement, whether that be recruiting or pursuing research collaborations. MCU External Comms observed that recent media reports indicated a continued rocky relationship ahead, not the least in the media landscape. However, a leading commentator highlighted that by focus on the fostering and amalgamation of medical, health, and technological advances, China will become the world's leading economy sooner than expected.

A key element of UTS engagement with China is research. Research Office identified its focus is to manage research engagement with China while mitigating risk for the university. Tasked by SEM, RO developed a clear research contract approval process, with Defence Trade Controls, due diligence, risk and benefit assessment built in, which was shared with the Group. As indicated in Attachment 2, in recent years there has been a steady growth of China funded research journals at UTS, also China is by far the largest sources of international research income. Since Jan 2019 UTS has assessed 19 opportunities with Chinese partners, 1 was not approved to proceed by the SEM subcommittee (s.2.1.2), 1 was not approved based on the view of SEM that it was a poor commercial deal for UTS (s.2.1.2) and would be reassessed if a better commercial deal could be made (IE it was not rejected because of risk). However, due to COVID-19, a tendency is noticed that some research activities are slowing down or on pause. There was discussion about the appetite for UTS

researchers to continue to engage in research with Chinese partners and funders, it was agreed that positive signalling that UTS continues to value Chinese collaborations, and that there are many opportunities, will be important in abating any reluctance to engage.

Beijing Office noted the China has recently introduced a number of policies favourable toward international collaboration, including new policy incentivising patent transfers, approval of more international education programs. There is also increasing demand in key technology areas. China needs more collaboration with overseas institutions. UTS Business School noted it is keen to explore bigger scale collaborations in China for research and industry engagement, reporting their senior academics already have solid links with Chinese entities. Beijing Office commented UTS is well positioned to exploit our research strengths with Chinese partners, especially through UTS Shenzhen Research and Innovation Institute, which was recently incorporated in China's Greater Bay Area to tap into the rapidly expanding research and technology sectors.

UTS Shenzhen reported a promising start despite COVID-19. s.2.1.2 [redacted]. Two joint research centres (JRCs) were established in Shenzhen with SUSTech, our KTP. Two more are under discussion. A research contract with s.2.1.2 [redacted] is to be signed soon. Research programs are also under negotiations with s.2.1.2 [redacted] (one of China's largest software and enterprise Systems Company, a spin-off of s.2.1.2 [redacted]. UTS is working with [redacted]. Progress is promising for both partnerships. In addition, there are 30 UTS-SUSTech PhD students recruited in Shenzhen, with 15 enrolled at UTS.

The Group also noted there is currently a multitude of joint research centres with Chinese institutions, some are high performing, especially those with our KTPs, but some are not active. Also there are constant requests from academics to introduce new JRCs with their collaborators, hoping for central or faculty funding. It is agreed that a review of the existing JRCs is necessary, to establish a set of clear guidelines as to establishment & des-establishment, source and quantum of funding, supervision & reporting as well as assessment & ROIs. Given UTS is currently working on an International Research Engagement Framework, which now incorporates the KTP program review, this China JRC review can be part of the broader process, with a focused working group looking after it.

GRS updated that UTS now has 19 collaborative PhD programs with Chinese institutions, with 50 students currently enrolled and 8 under examination. Overall, there is a steady growth of Chinese HDR students, with 49 commencements in A2020 and 323 continuing students. However recent PhD candidate visa delays continue to be an issue (UTS currently has 10 students still waiting for their visa after 12 months since application), as with other Australian universities. Also COVID-19 led to 10 Chinese HDR students with visa for Autumn 20 but not enrolled at UTS, we need to monitor this trend. UTS is also exploring s.2.1.2 [redacted] with whom UTS has existing collaborations. Launched in March 2019, Tsinghua SIGS is a collaboration between Tsinghua University and the Shenzhen Municipal Government that builds on the Tsinghua Graduate School in Shenzhen and the Tsinghua-Berkeley Shenzhen Institute.

Beijing office pointed out while China will continue to send large numbers of students abroad for higher education, we may see a flat or even downward trajectory of Chinese students in the near future. International travel restrictions, perceived overseas health and safety issues by Chinese parents and students combined with economic hardships may witness more students staying in China. That said, ACRI noted the US-China relationship is deteriorating at an even more rapid rate that the Australia-China one and so it is not obvious that Chinese students would be more attracted to studying in the US. The good news for Australian universities is that while income flows for

Chinese households have taken a hit, wealth stocks remain largely intact. What is almost certain is that China will be the first major economy to emerge from the other side of its own battle with COVID-19. This means that while Australian universities should prepare for soft China numbers in 2021 due to a Chinese economic slowdown, the global fallout, especially when combined with Australia's own retail shutdown and work opportunities for international students being curtailed, means that arrivals from markets other than to China are likely to be negatively affected to an even greater extent.

In terms of student recruitment, UTSI reported though UTS has maintained a positive and steady share of around 5% of the total China market from 2015 to 2018, against a decline ATN (the old 5) share from 14% to 12% and a surging 59% to 66% for the G8. Earlier in the year projection was Autumn 2020 commencement should increase by 6-8%, due to COVID-19, A2020 experienced a large drop from 1,808 in A2019 to 1,621, a 10% decline, the first decrease UTS had in a decade. s.2.1.2 [redacted].

Facing this downturn, UTSI, Faculties and Insearch adopted a number of strategies. s.2.1.2 [redacted]. Globally, the market is experiencing double digit expansion with only a relatively few courses currently available in Australia. UTSI, Insearch and MCU have also been working on a joint project for a stronger and more robust digital presence in China to build the profile in and compete with other institutions from Australia, within China and internationally. This project will deliver s.2.1.2 [redacted]. Once launched mid-year, it will be a powerful tool boosting the profile of both UTS and Insearch in China. On top of the above, UTS and Insearch are adjusting strategies in recruitment and promotions, various activities undergoing include the latest pan-UTS International Marketing 360 campaign, an opportunity to put the UTS brand in the global light with a clear positioning; the international schools strategy; joint UTS and Insearch virtual Open Days and virtual campus tours; large scale student webinars; online agent events; as well as various scholarship programs. s.2.1.2 [redacted].

Beijing office noted that COVID-19 situation witnessed many global universities significantly ramping up their efforts in China, especially US, UK and Australian institutions, however UTS does stand out in terms of our student support. One recent China wide top trending social media news is the UTS Hubei Scholarships, an initial estimate indicated that the campaign generated a PR dollar value of AUD s.2.1.2 [redacted] or more, with 122 million digital impressions, 1.4 million UTS Weibo views and 33,000 UTS WeChat views, s.2.1.2 [redacted].

s.2.1.2 [redacted]. Progress is heartening for our new joint college with Northeastern University (NEU), the Sydney Smart Technology College (SSTC), whose approval by the Chinese MOE was announced shortly after the Group meeting on 27 April, great news for UTS and NEU. A quota of s.2.1.2 [redacted] per year at SSTC can provide a steady flow of students to UTS. Also, the FEIT initiative of Master of Engineering Management (MEM) program with the Technological and Higher Education Institute of Hong Kong (THEi) is built upon UTS's long established research relationship with Hong Kong's Vocational Training Council, the largest vocational education, training and professional development group in Hong Kong, with whom THEi is a member institute. Our cohort intake is expected to be between s.2.1.2 [redacted] per year. s.2.1.2 [redacted]

[redacted] At the same time, our first TNE program in China, the SILC Business School is ones of the largest in cohort size and longest standing in history for a China foreign joint school. It was voted as one of the "most influential joint education school" in China for a number of years in a row by Sina.Com, one of China's largest web news portal. Earlier this year, SILC's AACSB accreditation was granted, a major milestone in its development. While limited in the quota size by the MOE, SILC has recently s.2.1.2 [redacted]

s.2.1.2 [redacted] There is a need to examine our existing partnerships for performance and impediments. Several strategies can be implemented to strengthen existing pathway partners to further grow our share via UTSI and Faculty activities. s.2.1.2 [redacted]

Due to time limit, further China opportunities have not been canvassed in depth by at this meeting, however, s.2.1.2 [redacted].

Attachment 1

UTS Internal

THE SEM CHINA WORKING GROUP TERMS OF REFERENCE (TOR)

UTS INTERNATIONAL 14 APRIL 2020

SPONSOR: IAIN WATT, DEPUTY VICE-CHANCELLOR (INTERNATIONAL)

CHAIR: LEO MIAN LIU, VICE-PRESIDENT GLOBAL PARTNERSHIPS & DIRECTOR UTSI

MEMBERS: (ALPHABETICAL)

PROFESSOR IAN BURNETT, DEAN, FEIT

PROFESSOR CHRIS EARLEY, DEAN, UTS BUSINESS SCHOOL

PROFESSOR JAMES LAURENCESON, DIRECTOR, ACRI

MARTIN LLOYD, DIRECTOR, RESEARCH OFFICE

PROFESSOR LORI LOCKYER, DEAN, GRS

ALEX MURPHY, MANAGING DIRECTOR, UTS INSEARCH

DR WANLING QU, IN-COUNTRY DIRECTOR, P.R. CHINA

GREG WELSH, HEAD, EXTERNAL COMMUNICATION, STRATEGIC COMMUNICATION

DIST PROFESSOR CHENGQI ZHANG, ASSOCIATE VICE-PRESIDENT (RESEARCH RELATIONSHIPS CHINA); CHIEF SCIENTIST, UTS RESEARCH AND INNOVATION INSTITUTE (SHENZHEN)

CONTACT: MS LUCY DAY, PROGRAM MANAGER, STRATEGIC INITIATIVES, UTSI

Purpose
The purpose of the Working Group is to capture a whole of university view of China related activities and issues, identify opportunities and report to the University Senior Executive Meeting (SEM).

Governance
The Deputy Vice-Chancellor (International) is the Group Sponsor, with meetings to be chaired by the Director, UTS International.

Timing
The Working Group will meet every two months, with the inaugural meeting in April 2020.

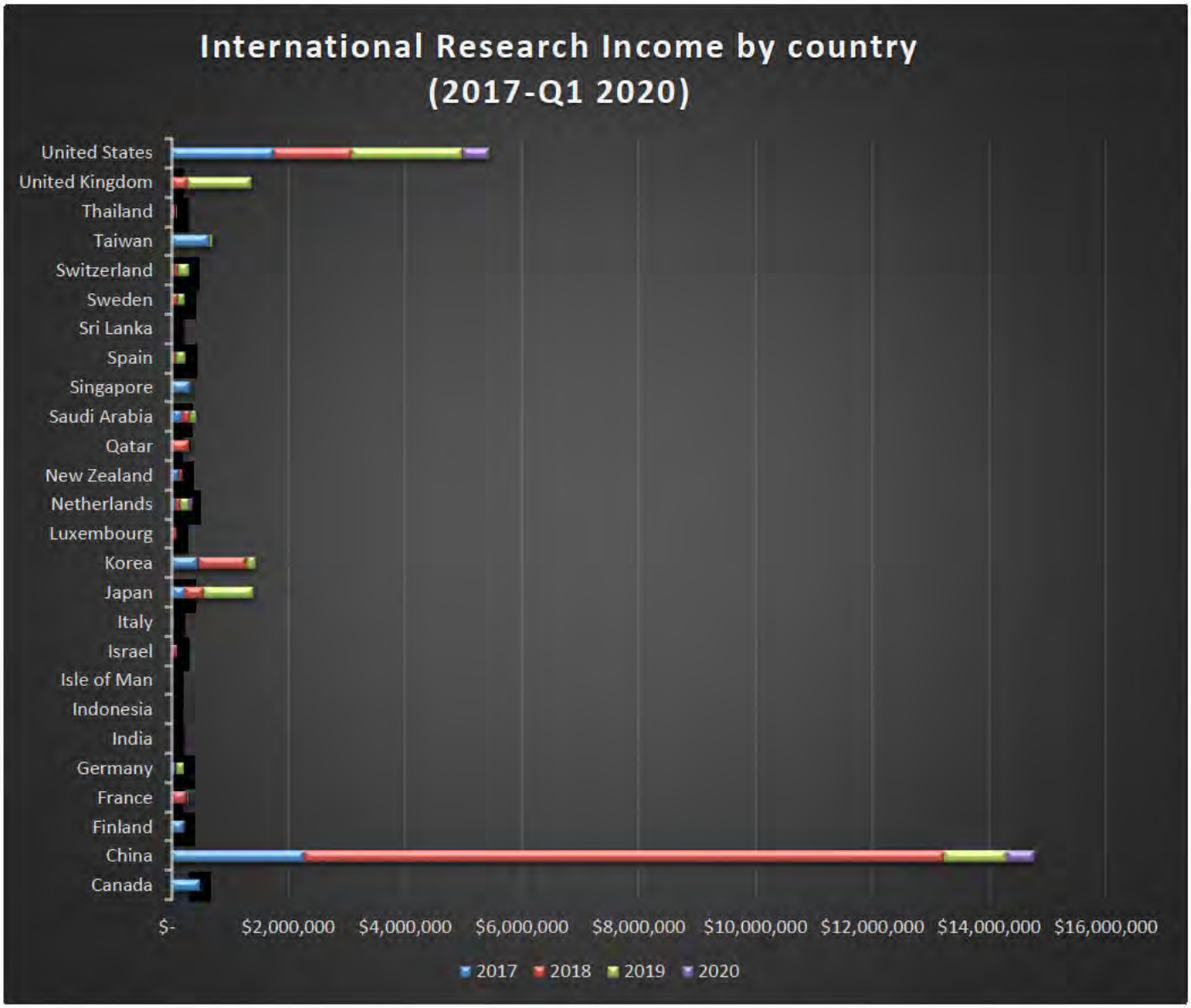
Working Group member's roles
Group members and invitees will be required to instigate discussions around the University's current and future activities and issues related to China, and to identify opportunities. It is expected that relevant regulatory and market situation both at home and in country are included in discussions to ensure the capture of both internal and external factors. Discussions and recommendations will be summarised and reported to SEM every two months.

Members and visitors
Non-members may be invited to the Group as required, subject to approval from the Sponsor or the Chair.

Review
The effectiveness and membership of the Working Group is to be reviewed no later than December 2020.

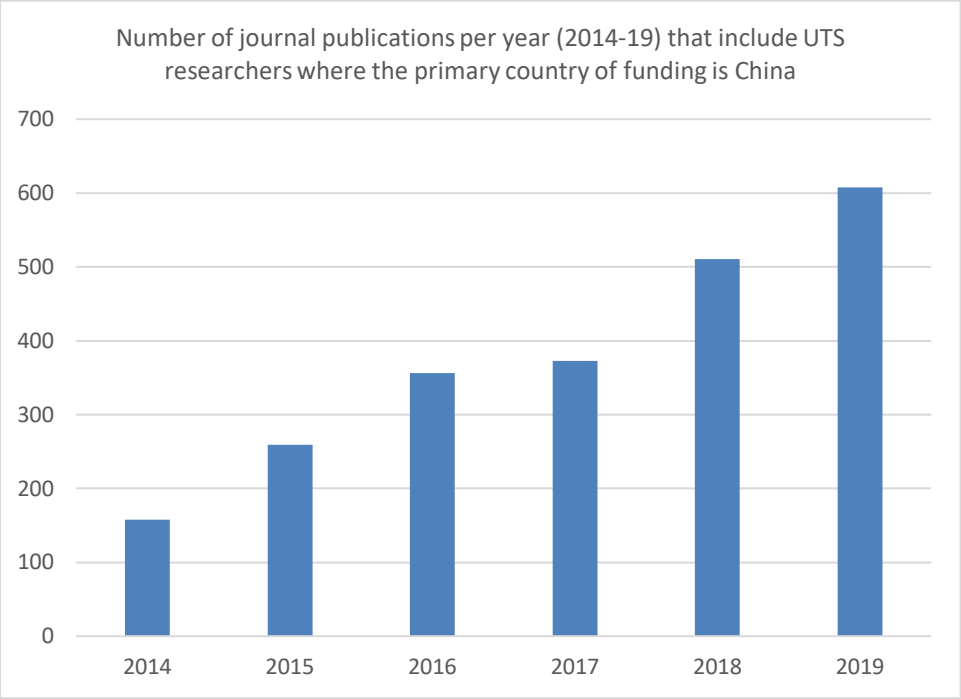
Attachment 2

Supporting info for SEM China Working Group report (by Research Office)



*Note – this includes the original contract value for the CETC projects that have since been terminated.

The below figure represents the number of journals published per year (2014-2019) that include UTS researchers where the primary country of funding (funder) is from China.



SENIOR EXECUTIVE MEETING (SEM)

MEETING DATE: ____ **November 2020**

SPONSOR'S NAME: **Iain Watt, Deputy Vice - Chancellor (International)**

AGENDA ITEM: **Disentanglement - UTS China Activities Worst Case Scenario**

Executive Summary

This paper examines the implications in the event of a major disruption of the bilateral relationship between Australia and China, such that some or all UTS activities in China and directly related to China may be forced to cease with or without notice. The paper draws to attention revenue, reputation and brand, partnership, staff and student impacts across a range of activities.

For UTS research collaboration with China, joint publications and joint research would be inevitably impacted. In 2019, there were approximately 600 joint publications where the primary country of funding is China. The number of publications co-authored with Chinese institutions has been steadily growing, over the last 4 years the number of co-authored publications has almost doubled from 587 in 2016 to 1,164 in 2019. UTS currently also has 19 joint research centres (JRCs) in China, including most recently a significant Joint Lab with Shanghai University. Some of the JRCs achieve substantial joint publications and joint supervisions. 7.4% of overall UTS external research income comes from China. s.2.1.2 [redacted]. UTS currently has 16 collaborative PhD agreements with universities in China with circa 50 students enrolled, including those with KTP partners. In addition, 372 students from China are currently enrolled in a non-collaborative degree program. These HDR activities would greatly diminish should the worst-case scenario happens.

International coursework student recruitment can suffer significant loss. Currently 50% of UTS international students come from China. A drop in student numbers could lead to as much as a 50% loss in commencing international student revenue. In the first year, this could amount to as much as s.2.1.2 [redacted] escalating to over s.2.1.2 [redacted] over the next three years as it starts to affect the continuing student revenue. It is assumed that enrolled continuing students from China would be able to remain on campus (or study remotely) until finishing their study with UTS and not be required to terminate their studies or return immediately to China, while new students might not be able to commence their study with UTS.

Pathway and transnational education activities that pose revenue losses are the SILC Business School with Shanghai University, estimated currently at $s.2.1.2 [redacted] per annum with a caveat that further analysis of actual revenue loss would be required. Adding to this, if students cannot articulate to on campus studies in Sydney further losses will be felt, ranging in the first year (2021) from $s.2.1.2 [redacted] for another partner s.2.1.2 [redacted]. s.2.1.2 [redacted]

s.2.1.2 [redacted]

Revenue generation of our Online Learning Centres, UTS's key international initiative this year, would diminish or extinguish, totalling approximately $16m if Summer 2020 and 2021 cohorts are affected. Additional revenue streams leveraging from the OLCs such as offshore online studies would also be impacted and could be significant. s.2.1.2 [redacted]

Due to the political nature in the eventuality of needing to cease activities minimal reputational damage to UTS is expected. However, brand recognition in China and future marketing efforts may diminish if Australian websites and social media channels are banned. Use of student recruitment agents for promotion will be challenging as agents may divert attention away from Australia to other countries, and significant loss of market share will be a reality. UTS Beijing Ltd would not suffer in terms of brand, but would need to consider impacts of any closure on the safety and wellbeing of staff. This indeed applies to OLCs, SSTC, SILC, HBNU and UTS Shenzhen (if staff in place). Similarly with Insearch's China entities. UTS Shenzhen will suffer relationship damage due to its cooperation agreement with the local government. Careful management would be required to reconvene and maintain the groundwork and developments to date if possible at all.

With respect to students, UTS is obliged by its duty of care to teach out students at SILC. Both SSTC and HBNU students are not enrolled at UTS while they study in China and so UTS would have no obligation of teaching out for them. Similarly, there is no obligation to teach out OLC students, though UTS may choose to do our best to minimise impact upon studies of those affected students. Students with our KTP partners, most prominently collaborative PhD students, would need to be supported and assessed on a student-by-student basis including determination on whether a dual degree program can continue as per the terms of the existing agreements or whether the student may continue as a UTS-only student and be awarded a UTS PhD for the work undertaken and thesis examined. All student safety and provisions need to be adequately addressed and provided.

With respect to staff, UTS staff travelling in country would need to return immediately (or be evacuated via International SOS or Australian diplomatic/consular missions), and be provided with logistical, HR, financial and counselling support. Second, locally engaged UTS staff, depending on their citizenship and residency, Australian citizens and permanent residents (and their families) would need to return or be evacuated and be provided with the necessary support. Chinese citizens with permanent residency may or may not be allowed to return, hinging upon whether their residency is "recognised". Chinese citizens (or third nationalities) without Permanent Residency would need to be paid out according to their contract with UTS and provided with other necessary support. UTS may have further obligations to assist these staff, depending on circumstances. The third group would be the jointly appointed academic staff with our partner institutions, of whom there are currently about 12-14, all Chinese citizens with no Australian residency rights, they would need to be paid out as force majeure clause may kick in for their employment contract with UTS. Other obligations, processes and costs to UTS need to be ascertained with these staff depending on the eventualities.

Recommendation

It is recommended that SEM notes, discusses these impacts and advise if further analysis is required.

UTS has a long history of working with China, this paper attempts to explore impacts upon below key UTS activities in case of a major disruption of the bilateral relationship:

- Research and HDR
- Transnational education and pathway programs
- Online Learning Centres
- Coursework student recruitment
- UTS entities in China

Research and HDR

Key Technology Partners

Publications with Chinese KTP co-authors would obviously be affected, the number of co-authored publications with KTPs over the period 2017 to date has been 443, this represents less than 17% of the total co-authored papers with Chinese institutions over that period. There would be some loss of expertise on UTS researchers' applications for grant funding available in Australia, which could result in those applications being less competitive, although this is very hard to qualify in any meaningful way. Applications in train including Chinese researchers may have to be withdrawn or substantially amended if UTS disentangles from China, existing research that is subject to funding agreements may need to be varied if Chinese collaborators had to be removed from the research team.

Reputation

Damage to UTS from withdrawing from current projects/collaborations, and those at an advanced stage of planning, is inevitable due to the severity of the scenario. This might include commitments to publish, to commit funding, to present jointly at conferences, etc., which would have to be withdrawn, at possible financial risk to partners as well as UTS.

Revenue

Possible revenue loss would be felt by UTS through international/Australia-China research funding opportunities being lost, although given research funding awarded in China generally has to remain in China, the impact would most likely not be substantial. Whilst our Joint Research Centres (JRCs) are generally set-up with the expectation that they will generate external funding from industry or research funding grants, in practice the amount of external funding generated that is directly linked to JRCs has been negligible. One exception is the Australia-China Science and Research Fund Joint Research Centre for Point-of-Care Testing with SUSTech, led on the UTS side by Distinguished Prof Dayong Jin, UTS received $936k from the Commonwealth Government for the Australian side of the JRC.

There may be a need to terminate agreements (MoUs, KTPs, JRCs), although there would be no directly related revenue questions. JRC activity on each side is funded by the side undertaking the activity (e.g., travel to/from China) so no payment would be required from one party to the other. Visiting Fellow programs with KTPs operate in a similar fashion – there would be no immediate revenue implications from having to terminate such agreements, unless in case of dispute (highly unlikely, given all agreements have a "written termination" clause and note that the agreement does not constitute a partnership in the legal sense).

While not a revenue implication, the University may need to bear additional costs associated with HDR students undertaking a collaborative (dual degree) between KTP and UTS. Currently UTS covers one-year living stipend for each student whose "home" university is the KTP. Circumstances may cause us to consider providing additional year(s) support to students. The only exception to this would be agreements struck with SUSTech. Currently, an internal project group is proposed to look at all UTS activities with SUSTech to ascertain our commitments and liabilities, hence further analysis is deferred to conclusion of the project.

Staff

As analysed further in later sections, the most substantial challenge to UTS staff would occur in a case of any staff being in China and having to be repatriated and/or in danger of being detained in China. This would cause substantial logistical and reputational risk for UTS, and put the individual researcher(s) in question in serious peril. Diplomatic/consular, International SOS and UTS support would most likely be limited and the physical and mental well-being of any UTS staff caught in such a situation would be at severe risk. Opportunities for UTS staff to engage internationally, to enhance their international reputation and reach, source high-quality PhD students, and boost their research output, would be lost.

The KTP Visiting Fellow programs could be cancelled at short notice with little to no material impact – there may be a need to pay for cancelled bookings (airfares, accommodation), but these would most likely not exceed $30k even in a worst-case scenario. There may be a need to assist with the return to China of any KTP/JRC academics in Australia at the time of any serious rupture in the Australia-China relationship, but this would most likely be a relatively simple process in comparison to undertaking a similar operation in reverse.

Partnership

Having to withdraw would be a process of notifying partners of our intention wherever feasible. An accelerated withdrawal could be legally difficult but would most likely be possible without having to resort to legal action; a formal letter of explanation and intent to withdraw would most likely be sufficient. There may be related research contracts or other commitments that would require legal input and advice in the event that these needed to be cancelled or UTS needed to withdraw; financial implications (such as penalty clauses) would be unusual but possible, depending on the contract. Such contracts would be more likely with industry partners, which are not explicitly considered in this paper.

Students

We have seen that it is possible to repatriate students promptly with the support of International SOS in the event of a public health issue, such as the COVID-19 pandemic, but a major political event would present much more challenging circumstances. There would likely be substantial time and funding required to bring students back to Australia safely.

Any major event between Australia and China which required such measures would also clearly have an impact on students here. These would include exchange students from KTPs, but most prominently PhD students undertaking collaborative PhD. UTS would need to assess, on a student-by-student basis, whether the dual degree program can continue as per the terms of the existing agreements (i.e., for both institutions to award the degree upon completion of the examination process) or whether the student may continue as a UTS-only student and be awarded a UTS PhD for the work undertaken and thesis examined. Will need to explore with UTS legal services the implications of any potential need to terminate the agreement on collaborative PhDs, the force majeure clause may kick in as well.

Any student unable to complete a collaborative PhD should be able to return to their home institution in China to complete, as they are required to be enrolled at both institutions; thus there would be some impact on each student involved, but not necessarily an unacceptably harsh impact. There would be some impact on research output at UTS, with a need to reconsider some research projects or find other PhD students to step in to work on ongoing projects. There is a potential trail of contracts and research funding that could be impacted and which would need to be amended, cancelled, or into which other resources would need to be added by UTS, in order to complete any research commitments made. UTS currently has 16 collaborative PhD agreements with universities in China with circa 50 students enrolled, including those with KTP partners. In addition, 372 students from China are currently enrolled in a non-collaborative degree program. These HDR activities would greatly diminish should the worst-case scenario happens.

Besides KTP related activities, UTS has broader research and HDR activities in China. In 2018 and 2019, research income from China represented 7.4% of overall external research income, this also represents approximately two-thirds of our international research income for those two years. (s.2.1.2). FEIT are most reliant on research income from China, s.2.1.2 and hence would be the most impacted in terms of research income should that activity need to cease. Around 3% of Faculty of Science research income over the same 2-year period was from China, with the rest of the university with negligible or zero research income.

In 2019, there were approximately 600 joint publications that include UTS researchers where the primary country of funding is China. The number of publications co-authored with Chinese institutions has been steadily growing, over the last 4 years the number of co-authored publications has almost doubled from 587 in 2016 to 1164 in 2019.

Joint Research Centres

Joint research also contributes to growth in rankings; UTS brand building in-country; greater bilateral understanding and closer cooperation; and increased opportunities for industry engagement. UTS currently has 19 JRC in China, including most recently a Joint Lab with Shanghai University. Some of the JRCs achieve substantial joint publications and joint supervisions but this is inconsistent across the JRCs.

International coursework student recruitment

Escalation of geopolitical tensions has the very real potential to make it difficult or impossible for Chinese prospective students to enrol in Australian institutions, creating significant financial loss, damage including loss of brand recognition and impacts on recruitment staff based in China with UTS Beijing Ltd.

As it becomes difficult for Australian universities to recruit students from China, there will be increased competition to recruit students from other key markets in South Asia and South East Asia. Both these regions are price sensitive regions and with the current UTS fee levels and intense competition faced from Go8 universities, recruiting high volumes of students from these regions to replace the shortfall from China will be difficult. Students that can afford the

higher fee will opt for a Go8 University while those who cannot will opt to do a lower priced degree.

China is also the main source for pathway students especially via Insearch. Escalation of geopolitical tension will also have an impact on the number of pathway students recruited by Insearch impacting the pipeline of undergraduate students to UTS.

Revenue
In the current environment more than 50% of the commencing international students at UTS are recruited from China. A drop in student numbers could lead to as much as a 50% loss in commencing international student revenue. In the first year, this could amount to as much as s.2.1.2 escalating to over s.2.1.2 over the next three years as it starts to affect the continuing student revenue.

Reduced brand recognition
As it becomes harder to place students at Australian institutions, the network of agents in China will divert prospective international students to other countries such as the UK. As such the UTS and Australian brand recognition in the market will diminish, eventually leading to a loss of market share. If the website and social media content of Australian universities is blocked by the Chinese government, as did happen to UTS website some years ago it will make it almost impossible for UTS to promote itself in China and to service applicants and prospective students. Without the web presence, UTS will have to increase its physical presence at recruitment activities and will become more dependent on the network of agents and posting our content on their websites to promote UTS (possibly having to provide more marketing dollars to the agents) if feasible at all. As we will generate fewer leads a lot more effort will need to be invested in nurturing these leads (eg: phone calls, emails etc.) to convert these leads.

Transnational Education (TNE) and Pathway Programs

In Mainland China, UTS has three major MOE approved TNE and pathway programs - SSTC with Northeast University, SILC with Shanghai University, and the UG Biotechnology Program with HBNU, plus a range of smaller articulation programs that do not require MoE approval.

Reputation and Brand
In terms of reputation and brand, UTS would suffer no damage beyond that suffered by all Australian education providers. Competitive positioning would not change concerning other Australian universities, but, depending on whether other countries such as the US, UK, Canada and NZ are similarly impacted there may be negative implications for all Australian universities.

Partnerships
Depending on the nature of the broader disruption, relationships with partner institutions may be impacted only temporarily, meaning that we would be able to resume swiftly, or more seriously, meaning recovery might be years in to the future or never. In any case, UTS would need to communicate to the maximum extent possible with partners.

SILC
This is the longest-running relationship in China of over twenty-five years and currently has an enrolment of circa 3,500 students with dual UTS and SHU degrees or single UTS degree.

Revenue

According to records, in the event of a shutdown of SILC, s.2.1.2 [redacted]. Costs of supporting the programs in Shanghai are considerable and the university is yet to undertake an analysis of costs versus revenue, so the extent of any real loss cannot be accurately estimated.

Students

Irrespective of obligations in our agreements with SHU, any termination may well be viewed as occurring under the force majeure provisions of the contract. UTS would be obliged by its duty of care to teach out students in the SILC programs (MEM, MFin, and BBus) to ensure they were not disadvantaged and exit awards would need an arrangement with SHU, subject to being allowed to do so. Given the size of the cohort enrolled (circa 3,500), also the varying lengths of the UG and PG programs, substantial cost and time need to be factored into this scenario.

Staff

UTS staff involved with SILC can be classified into three groups: First, FIFO teaching staff, UTS would need to stop sending them to SILC. Those in country at the time of disruption would need to return immediately (or be evacuated via International SOS or Australian diplomatic/consular missions), and be provided with logistical, HR, financial and counselling support. Second, locally engaged UTS staff, most likely the Director and staff of the UTS Learning Centre at SILC, depending on their citizenship and residency, Australian citizens and permanent residents (and their families) would need to return or be evacuated and be provided with the necessary support. Chinese citizens with permanent residency may or may not be allowed to return, hinging upon whether their residency is "recognised". Chinese citizens (or third nationalities) without PR would need to be paid out according to their contract with UTS, and provided with other necessary support. UTS may have further obligations to assist these staff, depending on circumstances. The third group would be the jointly appointed academic staff, of whom there are currently about 12-14, all Chinese citizens with no Australian residency rights. It will depend on the nature of the disruption what costs and obligations UTS might have with about these staff. Any other visiting UTS personnel (non-FIFO teaching staff) at the time of the unfortunate event will need to return immediately (or be evacuated).

SSTC and HBNU

Revenue

Given the majority of students for both programs are meant to articulate and study onshore with UTS, s.2.1.2 [redacted].

Partner	Year	Cohort	Approx. revenue *
HBNU	2021	s.2.1.2 [redacted]	
	2022		
	2023		

	2024	s.2.1.2

*s.2.1.2

Partner	Year	Cohort	Approx. revenue *
SSTC	2022	s.2.1.2	
	2023		
	2024		

*s.2.1.2

Students
Both SSTC and HBNU students are not enrolled at UTS while they study in China, UTS would have no obligation of teaching out for them to obtain a UTS qualification at the completion of their courses, but might still choose to complete teaching obligations in China for commenced cohorts through FIFO staff, remote teaching and/or using locally engaged staff if allowed. Pastoral care as to student wellbeing might need to be provided as well. These will incur costs and time, to be analysed further if required. The alternative would be for UTS to accept them to articulate onshore, even if they have not completed the required elements in China and complete study in Sydney if so they choose, again subject to border conditions then.

Staff
Arrangements for staff would follow similar processes as described above for SILC.

None-MOE approved pathway programs

Revenue
If students were unable to commence onshore from non-MoE approved articulation partnerships in China, s.2.1.2

Students
UTS does not have obligation to ensure that the students enrolled with articulation pathway providers can complete their course with UTS. Students would have several options to complete their degree outside of UTS.

Staff
Usually, no UTS teaching staff is involved in China for articulation programs, except visiting UTS personnel.

Online Learning Centres (OLCs)

These centres provide a physical learning space and extra support for coursework students enrolled at UTS who are currently studying online in China and Vietnam due to COVID-19 and the associated travel restrictions. OLCs in China will continue for the Summer session (mid-November 2020 to the end of February 2021) and the Autumn session (February to June 2021). s.2.1.2

s.2.1.2 [redacted] .

Revenue

s.2.1.2 [redacted]

The core objective of establishing OLC type arrangements is to demonstrate support to our remote learners with a view to improving remote enrolments either at the OLC or not. Much of the revenue will come from students enrolling because of this support, but still studying from home. Remote delivery also has potential to deliver significant revenue through engaging with international learners, education partners, corporations and governments to deliver appropriate UTS products across a range of markets.

Students

s.2.1.2 [redacted]

OLC China		Summer'20		Autum '21	Spring'21	Summer'21
Payment	$AUD (per student)	Estimate 200 Students		Estimate 400 Students	Estimate 400 Students	Estimate 200 Students
Payment to s.2.1.2 (excl. GST)	s.2.1.2 [redacted]					
Payment of grant to student						
Total payment	6,000	1,100,000		2,200,000	2,200,000	1,100,000

Note: Payment of grant is a one off payment. Future payment is estimated on students joining the OLC for the first time.

Reputation

As with TNE and Pathway programs, reputational damage to UTS would be minimal due to the political nature of the eventuality, no fault for UTS nor OLC partner institutions and s.2.1.2 [redacted]

UTS entities in China

UTS Beijing is a Wholly Foreign Owned Enterprise in China, a subsidiary of Australian company UTS Global. In essence, it is UTS's representative office in China.

Revenue and Expenses

UTS Beijing acts to provide consultancy and UTS Brand promotion activities and does not create revenue per se in its undertakings, therefore should it need to close there would be no direct revenue loss. Any revenue loss would be felt in /across other business development activities, however if the broad relationship with China deteriorates, other opportunities will by definition cease/ halt.

Activities to close the WFOE would include paying out of contracts (rent, staff, services, etc.,); legal services required to wind up the company; and taxes. Costs would need to be itemised but expected to be in excess of $200,000. s.2.1.2 [redacted]

Staff
Seven staff currently work for UTS Beijing including those supporting above OLCs and student recruitment activities, with four based in the Beijing office. Any likelihood of requiring UTS Beijing to close may be personally and professionally damaging to staff, and or put them at probable legal or personal risk due to their association with UTS. As staff employed by UTS Beijing are all Chinese nationals, there would be little to no formal legal support UTS could provide. Such a scenario would also have an impact on the wellbeing of colleagues in Sydney as well, through concern for their China-based colleagues safety. UTS would need to provide any pastoral care support, particularly any available legal support, that could feasibly be offered to staff in China, and ensure Sydney-based staff had access to counselling and support as needed.

Reputation
Advice would need to be provided to partners, the Australian Embassy and Consulates, etc., but in such a severe scenario, the impact of the closure of the company would in itself not have any substantial reputational impact. The only exception to this would be if UTS Beijing staff were imperilled as a result of the event occasioning closure of the company. In which case, UTS would need to provide all support possible.

UTS Shenzhen

Revenue and Expenses
UTS Shenzhen, similarly a WFOE as UTS Beijing, is a company still in start-up phase. s.2.1.2 [redacted]

Staff
Hiring of in-country staff by the company has been paused since early 2020, this has helped to curb expenditure in uncertain times, and means that should the company cease activity, no locally hired personnel are affected. UTS based staff have worked on the project since inception. Work allocation of three staff would be impacted as well, namely the UTSI Program Manager, Strategic Initiatives, the Associate Vice-President (Research Relationships China) and the Project Coordinator.

Reputation
It is likely that ceasing activity and thereby terminating the Cooperation Agreement with the Futian District Government will cause relationship damage that would be hard to recover. The fundamental rationale for the establishment of UTS Shenzhen is still valid, albeit abated by the current conditions.

Next steps

A more detailed analysis of impacts can be provided if required.

Risk Assessment

Top Strategic Risks

IDENTIFICATION					ASSESSMENT					PLANNED ACTIONS	
#	Risk Description	Causes of Risk (*)	Primary Risk Owner	Secondary Risk Owner(s)	Current Mitigations/Activities	Current Risk Rating: Likelihood	Current Risk Rating: Consequence	Current Risk Rating: Overall Rating	Risk Velocity	Proposed Actions	Action Owner & Implementation Date
S2	Failure to have a resilient business model with a diversity of markets, revenue streams and delivery methods to cope with a decline or over reliance on international revenue from one country, the occurrence of a high impact low likelihood risk, changes in government policy, aggressive market competition and opportunities to tap into new or emerging markets	a. Decline of / over reliance on international student enrolments from China b. out of scope c. d. e. f. g. h. i.	DVC International (Diversification and international revenue)	Vice Chancellor Provost DVC Research DVC Innovation & Enterprise	a. Increased activities and investment to diversify international student cohorts covering Asia, Latin America and Africa b. Expanding of international student recruitment network through appointment of new agents in targeted areas noted above. c. Working with Faculties to introduce s.2.1.2 d. e. f. g. h. Branding and profiling activities ramped up in key markets including pilot faculty promotions i. China digital project with Insearch j. out of scope k.	Almost Certain	Major	Critical 9	Rapid 1 2 3 4 5 Very Slow … Very Rapid	a. out of scope b. Identification, set up and introduction of new online learning centres outside of China to grow this revenue stream c. out of scope d. e. f. g. h. i. j. k. l.	VC International ngoing through to 2023/24 (a. to f.) DVC Research 31 December 2021 (g.) VC Innovation & Enterprise ngoing through to 2022 (h. to l.)
		j. out of scope	DVC Resources (Budgeting & financial modelling)		out of scope						

#	Risk Description	Causes of Risk (*)	Primary Risk Owner	Secondary Risk Owner(s)	Current Mitigations/Activities	Current Risk Rating			Risk Velocity	Proposed Actions	Action Owner & Implementation Date
						Likelihood	Consequence	Overall Rating			
		k. out of scope l. m.		out of scope							

Risk Assessment

Top Strategic Risks

IDENTIFICATION					ASSESSMENT					PLANNED ACTIONS		
#	Risk Description	Causes of Risk (*)	Primary Risk Owner	Secondary Risk Owner(s)	Current Mitigations/Activities	Current Risk Rating: Likelihood	Current Risk Rating: Consequence	Current Risk Rating: Overall Rating	Risk Velocity	Proposed Actions	Action Owner & Implementation Date	Target Risk Rating End 2021
S2	Failure to have a resilient business model with a diversity of markets, revenue streams and delivery methods to cope with a decline or over reliance on international revenue from one country, the occurrence of a high impact low likelihood risk, changes in government policy, aggressive market competition and opportunities to tap into new or emerging markets	a. Decline of / over reliance on international student enrolments from China b. out of scope c. d. e. f. g. h. i. j.	DVC International (Diversification and international revenue)	Vice Chancellor Provost DVC Research DVC Innovation & Enterprise	a. Increased activities and investment to diversify international student cohorts covering Asia, Latin America and Africa b. Expanding of international student recruitment network through appointment of new agents in targeted areas noted above. c. Working with Faculties to introduce s.2.1.2 d. out of scope e. f. g. h. Branding and profiling activities ramped up in key markets including pilot faculty promotions i. China digital project with UTS College j. out of scope k. l. m.	Almost Certain	Major	Critical 9	Rapid (1 2 3 4 5; Very Slow – Very Rapid)	a. Develop new international offerings (SFL, UTS Professional, TNE, Pathways, franchising etc.) for new revenue sources (new) b. Expansion of TNE and pathway programs. (new) c. out of scope d. Identification, set up and introduction of new online learning centres (subject to business cases) outside of China to grow this revenue stream e. out of scope f. g. h. i. j. k. l.	DVC International Ongoing through to 2023/24 (a. to f.) ce Chancellor, rovost & DVC International (g) ongoing C Innovation & Enterprise ngoing through to 2022 (h. to m.)	Critical 9

#	Risk Description	Causes of Risk (*)	Primary Risk Owner	Secondary Risk Owner(s)	Current Mitigations/Activities	Current Risk Rating			Risk Velocity	Proposed Actions	Action Owner & Implementation Date	Target Risk Rating End 2021
						Likelihood	Consequence	Overall Rating				
					out of scope n. o. p. q. r.					out of scope m.		

out of scope

DXC.technology

Cyber Maturity Review – Current State

University of Technology Sydney

Version 1.8 - FINAL **15 October 2020**

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1 Document History

Revision History

Version	Date	Author	Description
1.5	22 Aug 2020	Tauseef Ul Haque	Draft after peer review from UK
1.6	27 Aug 2020	Peter Dowley	Draft for release to UTS
1.7	14 Oct 2020	Tauseef Ul Haque	Updates based on UTS feedback/artefacts
1.8	15 Oct 2020	Peter Dowley	Final release of the report

Table 1. Document History

2 Report Scope and Findings Summary

University of Technology Sydney engaged DXC Technology to conduct a Cyber Maturity Review (CMR) across their organisation. The purpose of the CMR was to provide senior management with an understanding of their organisation's level of cyber maturity across all areas and s.2.1.3 . This report details the findings from the CMR, the resulting overall maturity score and a breakdown of scores per domain. The report outlines any areas for improvement, provides benchmarking against industry peers and provides a roadmap of cyber improvements that can be taken forward by the organisation.

DXC Technology carried out the Cyber Maturity Review (CMR) using DXC's standard methodology, as a high-level maturity assessment which was comprised of a series of workshops and discussions with the University of Technology Sydney's stakeholders and key management staff. The maturity assessment began in the week commencing 25th May 2020 for planning followed by a series of interview and workshops.

The reporting output from the CMR is aligned to DXC Technology's Cyber Reference Architecture (CRA) and it was scored against DXC's adapted version of the Capability Maturity Model Integration (CMMI). Additional details of the approach can be found in Section 3 of this document.

The report is structured as follows:

- This section (Executive Summary) covers the review objectives and scope, an overview of current maturity scores as well as key conclusions and improvement areas.
- Section 4 outlines the observations for each security domain, s.2.1.3 .
- Information on the review structure, scoring and domain objectives can be found in the Appendix.

2.1 Scope

The Scope of the CMR was to assess the current maturity state of the security capabilities at University of Technology Sydney through a series of extensive interviews with concerned stakeholders/staff members. The assessment also involved a review of relevant documents to clarify and substantiate the responses.

Over 500 Questions were asked for all 12 CRA domains. DXC suggested 26 stakeholder roles for the workshops; UTS then nominated staff members to respond to the questions. Some interviews required more than one session. 15 additional areas were added as advised by the CMR Governance Board which required additional time and effort in completing the fieldwork, and report sections. For the 26 CMR roles, there are instances where one staff member was delegated more than 4 CMR roles to respond; separate sessions were then conducted for each role with targeted questions.

87 artefacts of various types were requested for the review, which are some of the UTS specific documentation identified during the interviews. In response, around 180 different artefacts (or separate pages) were shared and reviewed. This includes extracts from the UTS internal portal.

A Cyber Maturity Review is intended to provide a comprehensive view of the organisation's security posture. It should be noted that it not an audit, compliance review or a risk assessment - the CMR is not an in-depth assessment of security design or of the detailed operating effectiveness of security controls. The CMR is used to identify and highlight gaps in the overall security: capabilities that don't exist, partially exist, or are not well structured.

2.2 Summary of Findings

University of Technology Sydney attained an overall maturity score of s.2.1.3 against a target score s.2.1.3, as shown in Figure 1.

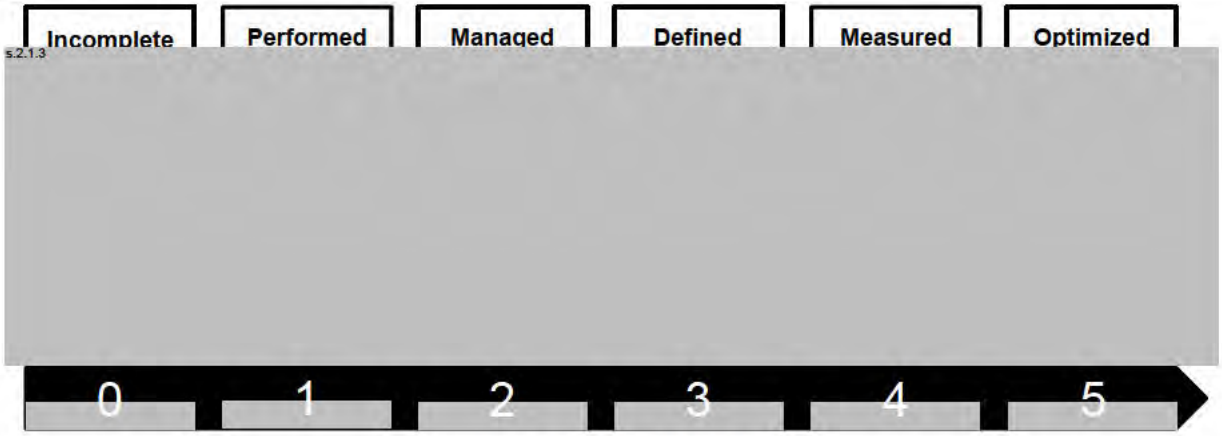

Figure 1. Current & Target Maturity

The current state of University of Technology Sydney's security maturity is s.2.1.3 . The review of the UTS's security maturity is compared against a mutually agreed target cyber security maturity score of s.2.1.3. This level of maturity is viewed by DXC Technology as an appropriate goal for UTS. It is expected that the momentum gained in reaching a maturity level of s.2.1.3 will provide the firm foundations to reach further levels of maturity throughout the cyber operations area.

2.2.1 Scoring for the CMR security domains

Figure 2 shows the security domains that have been assessed during the CMR, which comprise the 12 domains of the DXC Cyber Reference Architecture.

Figure 2. DXC Cyber Reference Architecture domains

In Figure 2 the domains are grouped into 3 functional categories (denoted by different outline colours in the diagram) to allow high level assessment of the Security Strategy & Risk Management category, Cyber Defense & Orchestration category and Technical Security category.

The grouped results are shown in Figure 3.

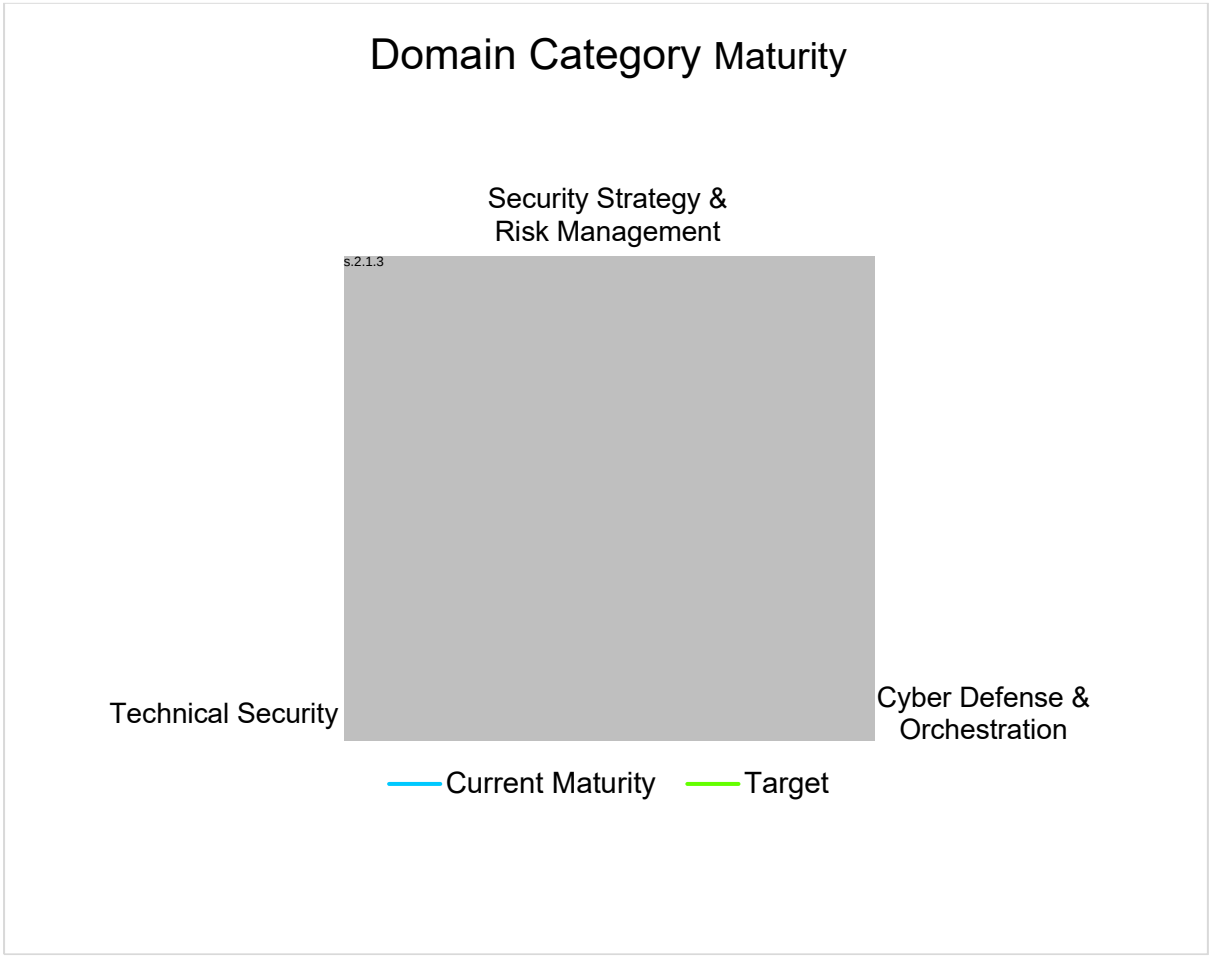

Figure 3. Category Maturity Summary

The Security Strategy & Risk Management category is s.2.1.3, scoring s.2.1.3. Security strategy should set the direction for the organisation's security activities and recommendations are made later in this report to address this low scoring area.

Cyber Defense & Orchestration has scored s.2.1.3 at s.2.1.3, indicating that University of Technology Sydney is s.2.1.3.

All three categories are s.2.1.3.

Figure 4 below provides the scores in each of the 12 individual security domains. s.2.1.3. Further detailed work will be required to prioritise all of the security activities required for University of Technology Sydney to progress to the target maturity.

The highest scoring domain is s.2.1.3 with a score of s.2.1.3. The lowest scoring domain is s.2.1.3. s.2.1.3 high level road map in section **Error! Reference source not found.** will outline key recommendations in all areas.

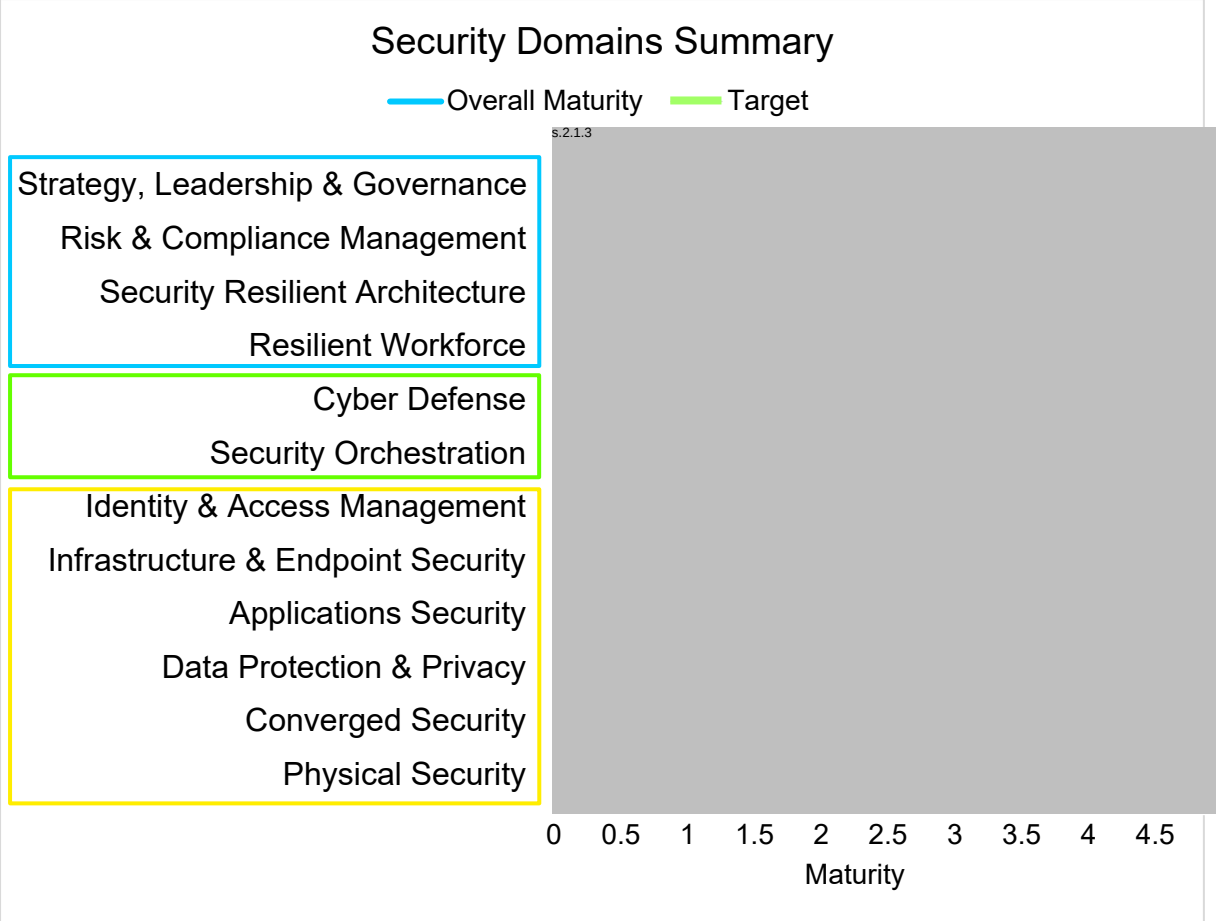

Figure 4. Security Domain Summary

2.2.2 Business strategy impacts

UTS is currently focusing on Vision 2027, a strategy to support future business models and goals with multiple streams of initiatives pivoted around digital transformation. The strategy highlights a substantial increase in the number of close relationships with external parties – both suppliers and customers. The Enterprise Learning Model/Platform will involve many external businesses connecting to the UTS network and systems.

On the technology side, the Cloud First strategy is a driving factor for enabling agility and efficiency to support future business models. In this context, s.2.1.3 [redacted]

2.2.3 Key areas of concern

During the assessment we have assessed the feedback and comments of the nominated respondents for consistency and have also reviewed artefacts that were provided in response to our requests. s.2.1.3 [redacted]

s.2.1.3 [redacted]

The overall score for UTS was s.2.1.3 security domains that make up the assessment:

a. s.2.1.3

b. s.2.1.3 .

s.2.1.3

It is apparent that security technology products have often been installed with s.2.1.3

s.2.1.3 UTS has invested recently in security awareness capabilities s.2.1.3 s.2.1.3

UTS has an excellent Risk Management framework, s.2.1.3

s.2.1.3

2.2.4 Overall recommendations

An ad hoc roadmap was provided before the preparation of this CMR report which listed a high level program of recommended actions/initiatives, made up of remediation, tactical, and strategic projects. These high level recommendations still hold true, s.2.1.3

The program of work s.2.1.3 requiring strong executive support. s.2.1.3 .

2.3 People, Process & Technology Summary

The assessment scored University of Technology Sydney against a set criteria for People, Process and Technology across the security domains.

Figure 5 below illustrates the results and key findings.

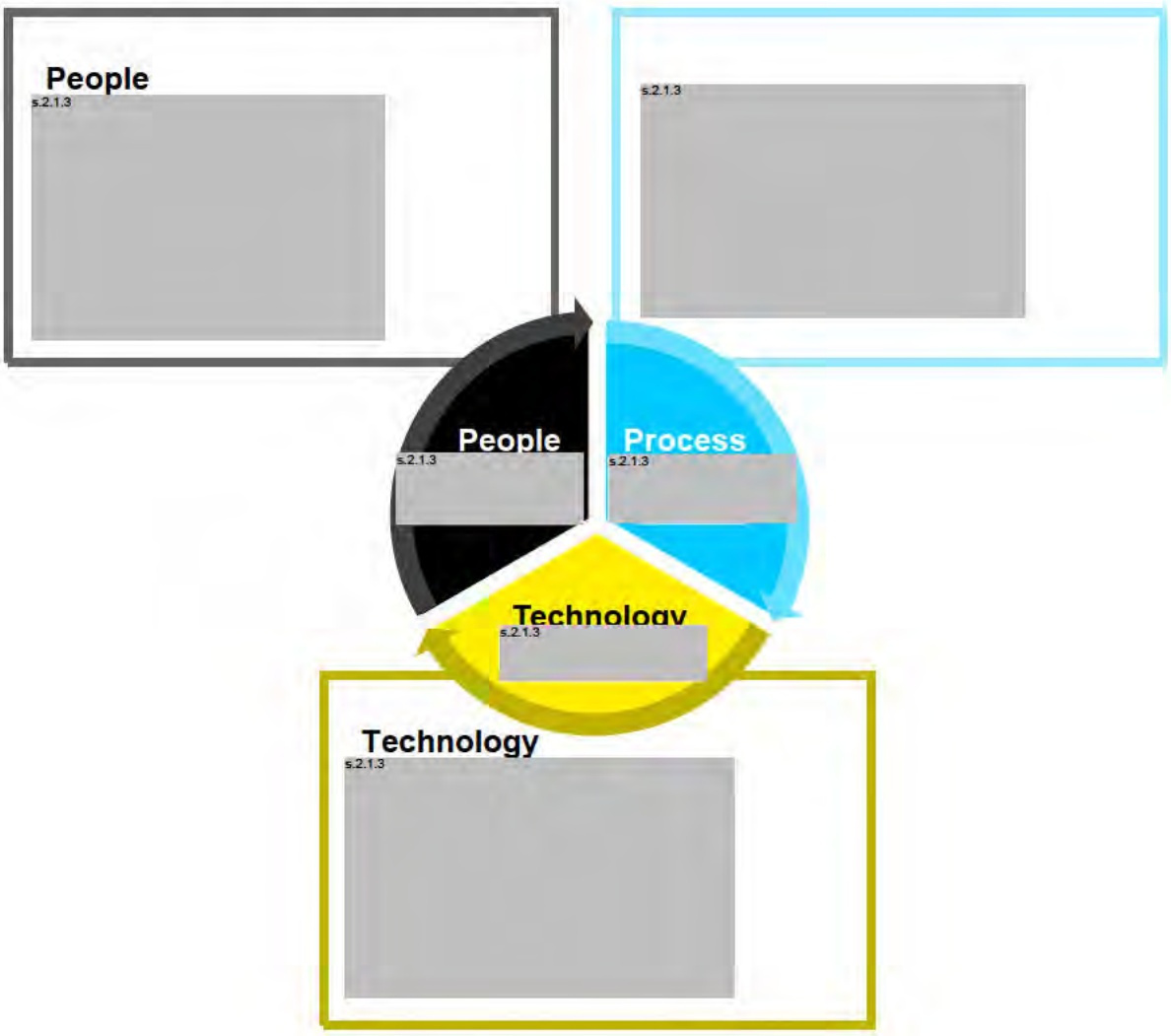

Figure 5. People, Process & Technology results

The review has identified s.2.1.3

Area	Observation
People	s.2.1.3 
Process	
Technology	

Table 2. People, Process, Technology observations

2.4 Industry Benchmark

University of Technology Sydney's maturity, s.2.1.3
Figure 6 below shows the scores of the 6 most representative clients available in this industry based on number of employees, number of branches and annual revenue.

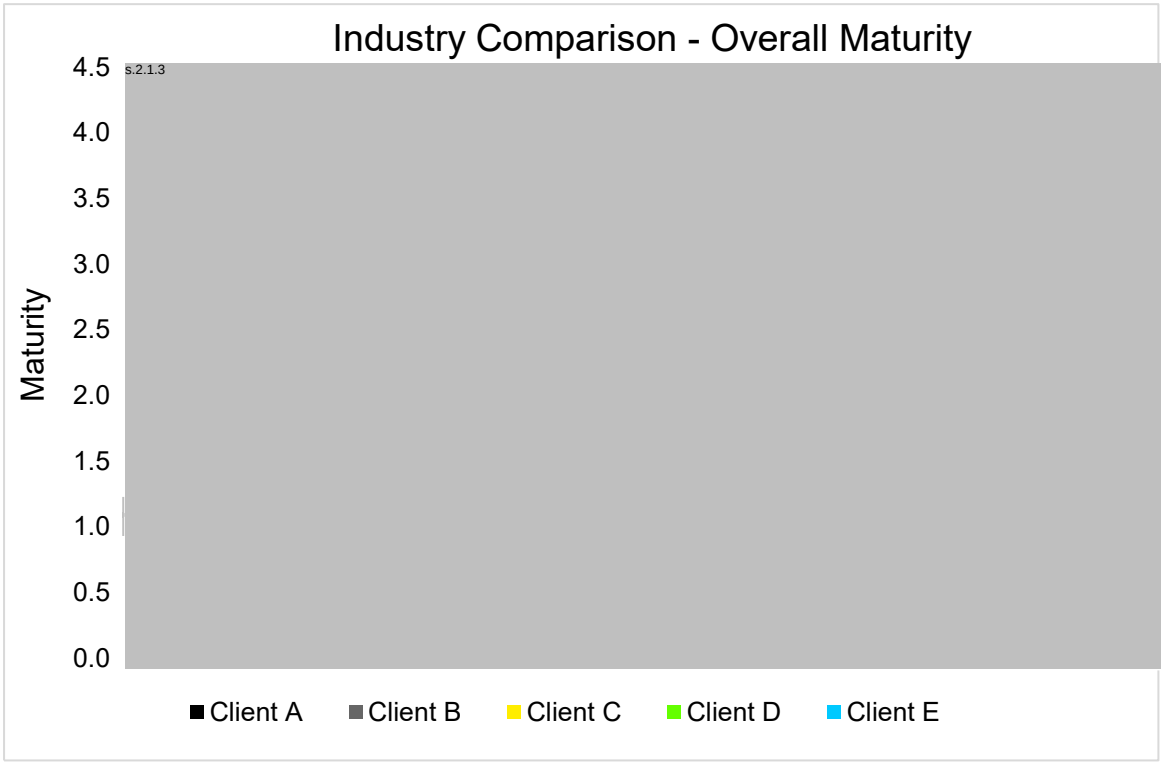

Figure 6. Industry Comparison – Overall Maturity

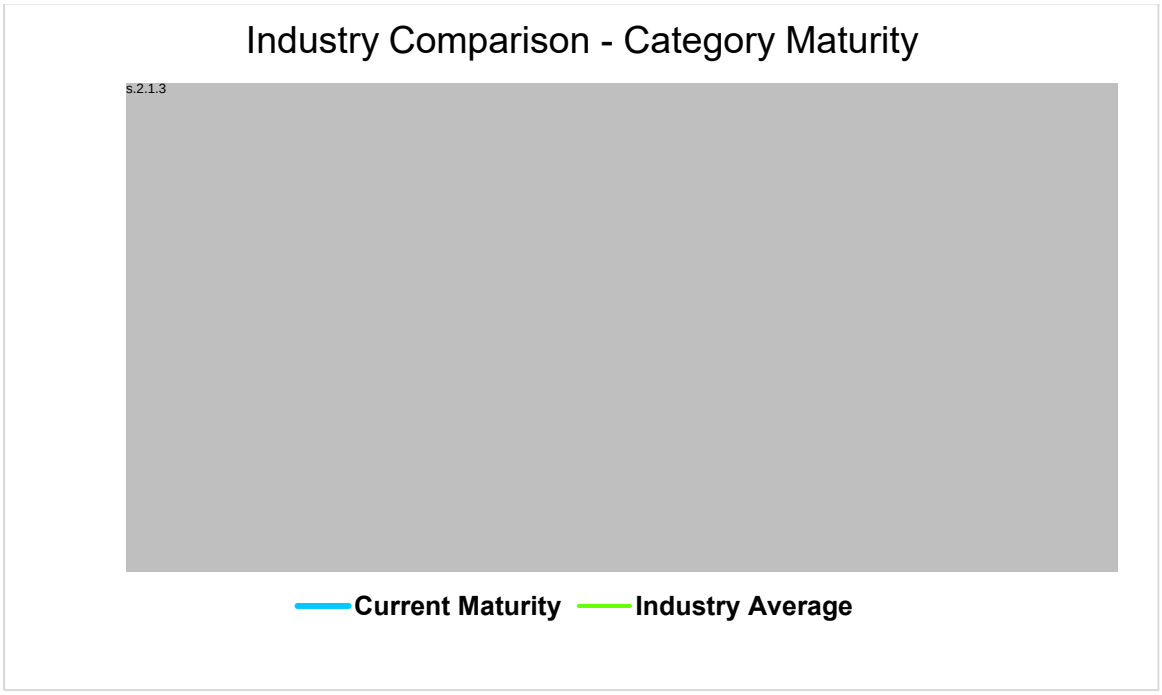

Figure 7. Industry Comparison – Category Maturity

Figures 7 highlights how University of Technology Sydney is s.2.1.3 .

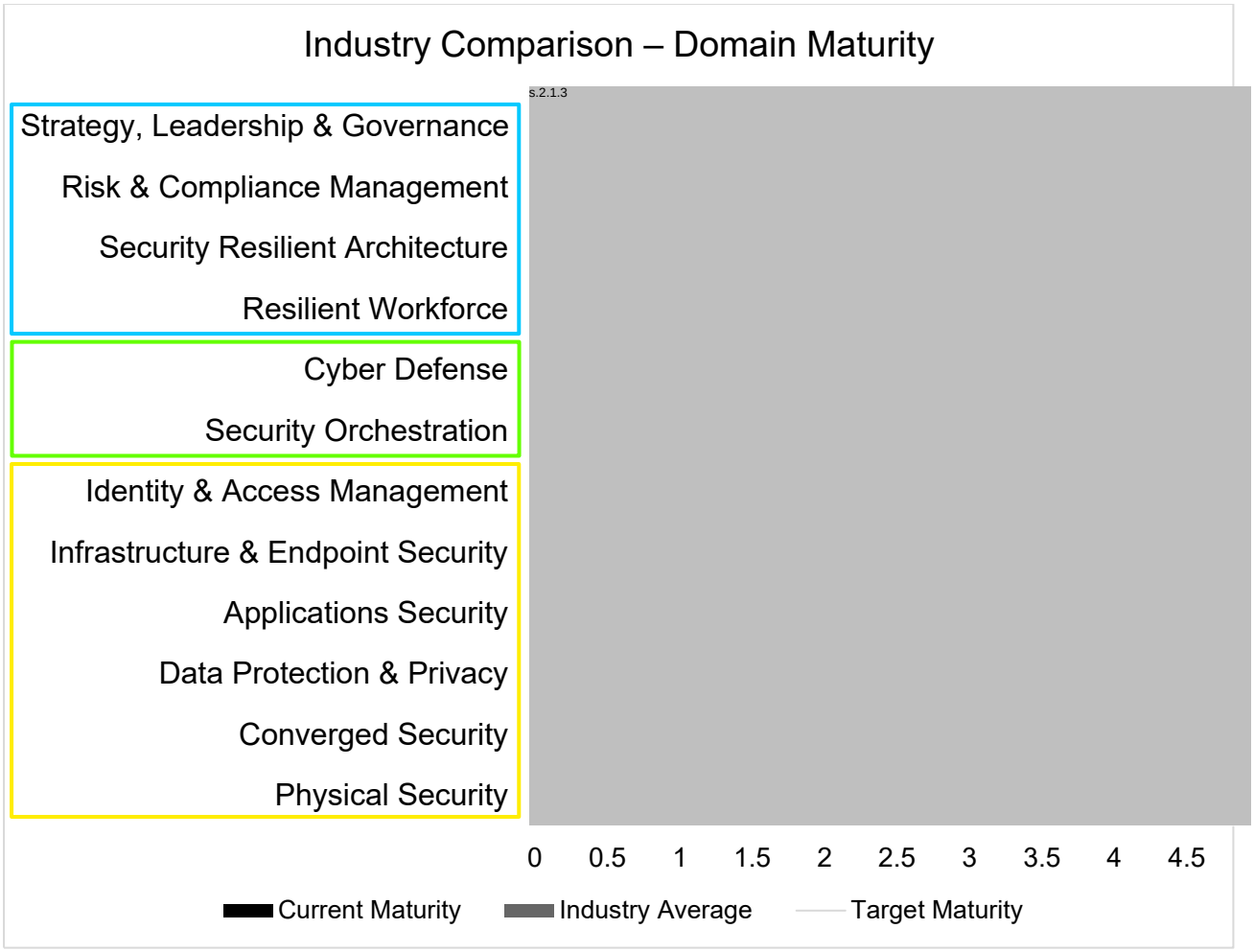

Figure 8. Industry Comparison - Domain Maturity

Figure 8 highlights that the industry maturity is varied s.2.1.3

2.5 Security Investment

The Average spending on Security is s.2.1.3 %. The proportion of the UTS IT budget that is spent on Security has not been determined.

A diagrammatical representation of the relation between IT security investment and Cyber maturity is provided in Figure 9.

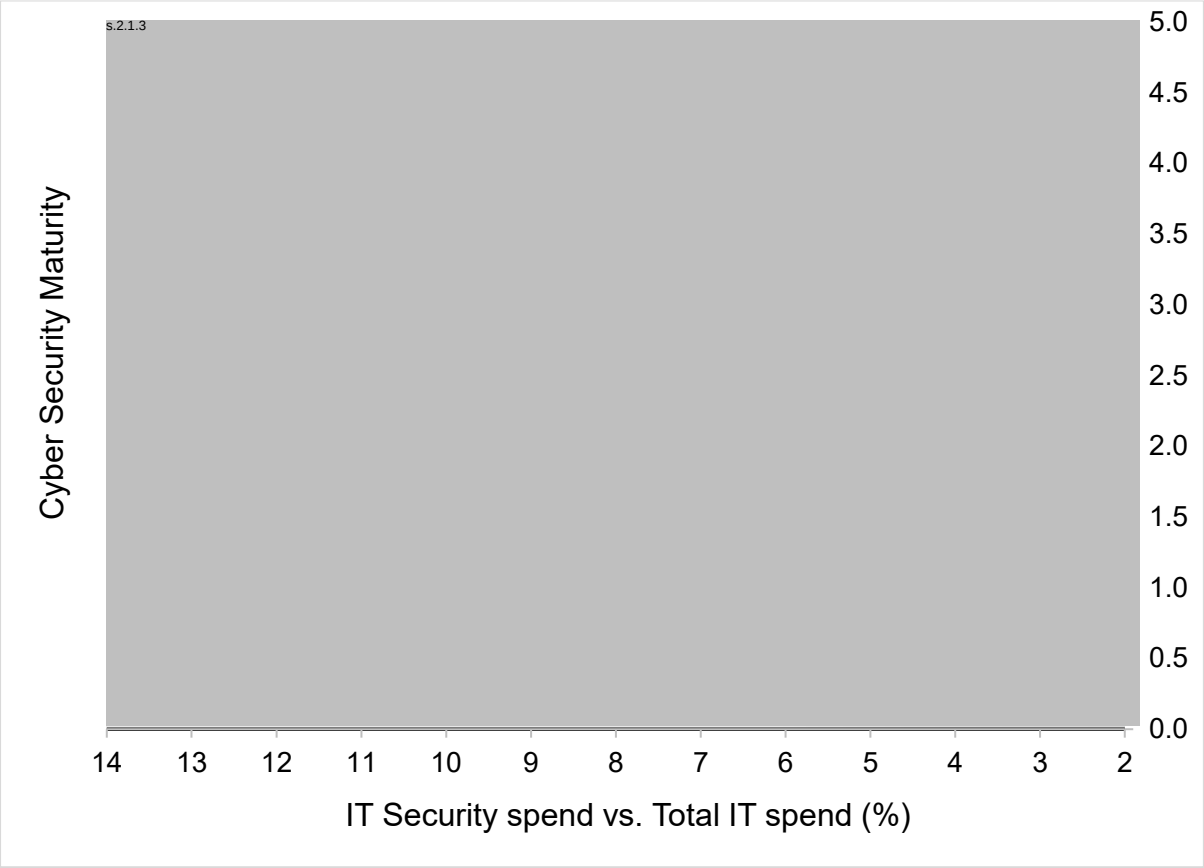

Figure 9. IT Security Investment vs. Maturity

2.6 Maturity against BS ISO/IEC 27001: 2013 Clauses & Controls

University of Technology Sydney has requested an in-depth review against the security requirements outlined in **BS ISO/IEC 27001: 2013.** The CMR is designed to assess not only the extent the clauses and controls exist but also how far they are actually deployed in the University of Technology Sydney's cyber security environment.

University of Technology Sydney has achieved an overall ISO average score of s.2.1.3 compared to the s.2.1.3 The maturity scores for University of Technology Sydney against the **BS ISO/IEC 27001: 2013** clauses are provided in Figure 10.

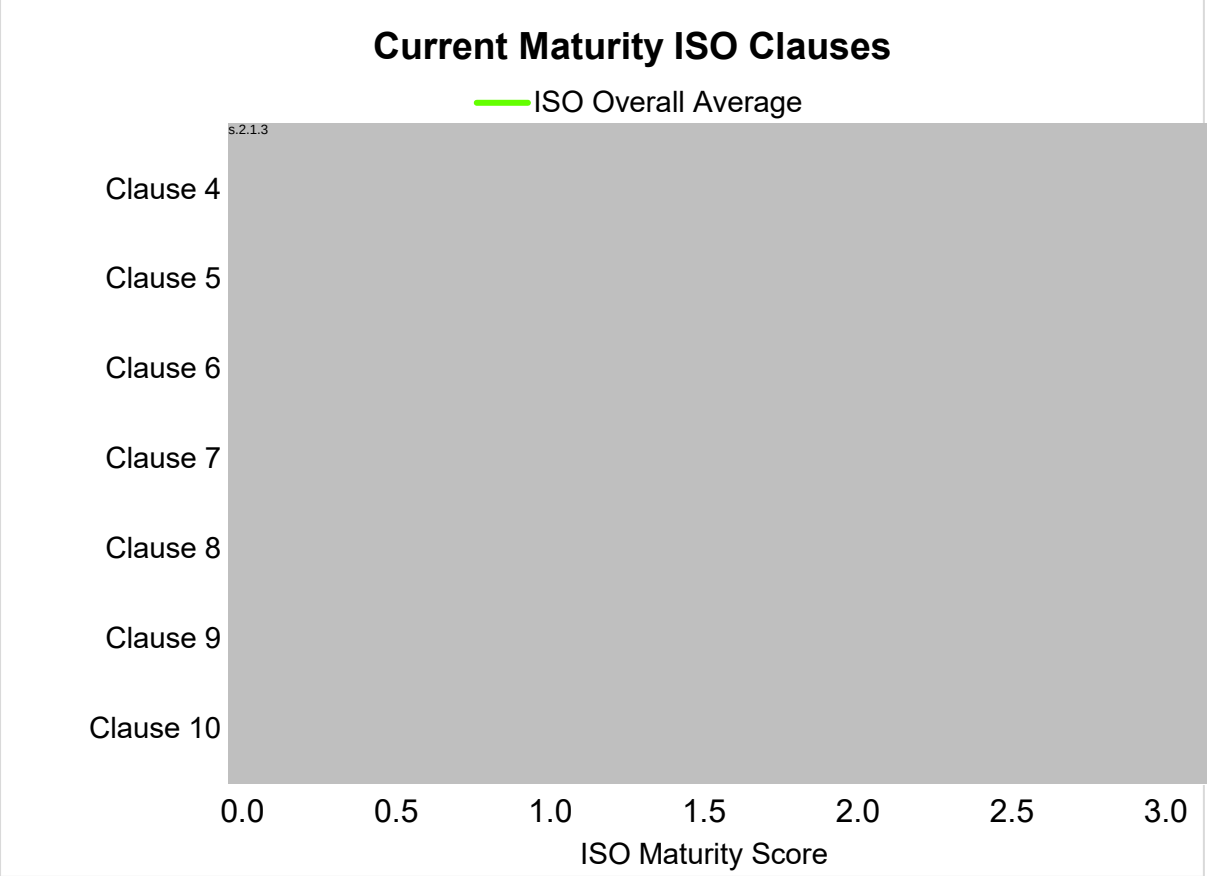

Figure 10. Maturity against ISO 27001:2013 Clauses

s.2.1.3 .

Clause	Observation
Clause 4: Context of the Organisation	s.2.1.2

	s.2.1.3
Clause 5: Leadership	
Clause 6: Planning	
Clause 7: Support	
Clause 8: Operation	
Clause 9: Performance Evaluation	
Clause 10: Improvement	

Table 3. Observations on BS ISO/IEC 27001:2013 Clauses

University of Technology Sydney's maturity against BS ISO/IEC 27001:2013 Annex A Security Controls is shown in Figure 11 below.

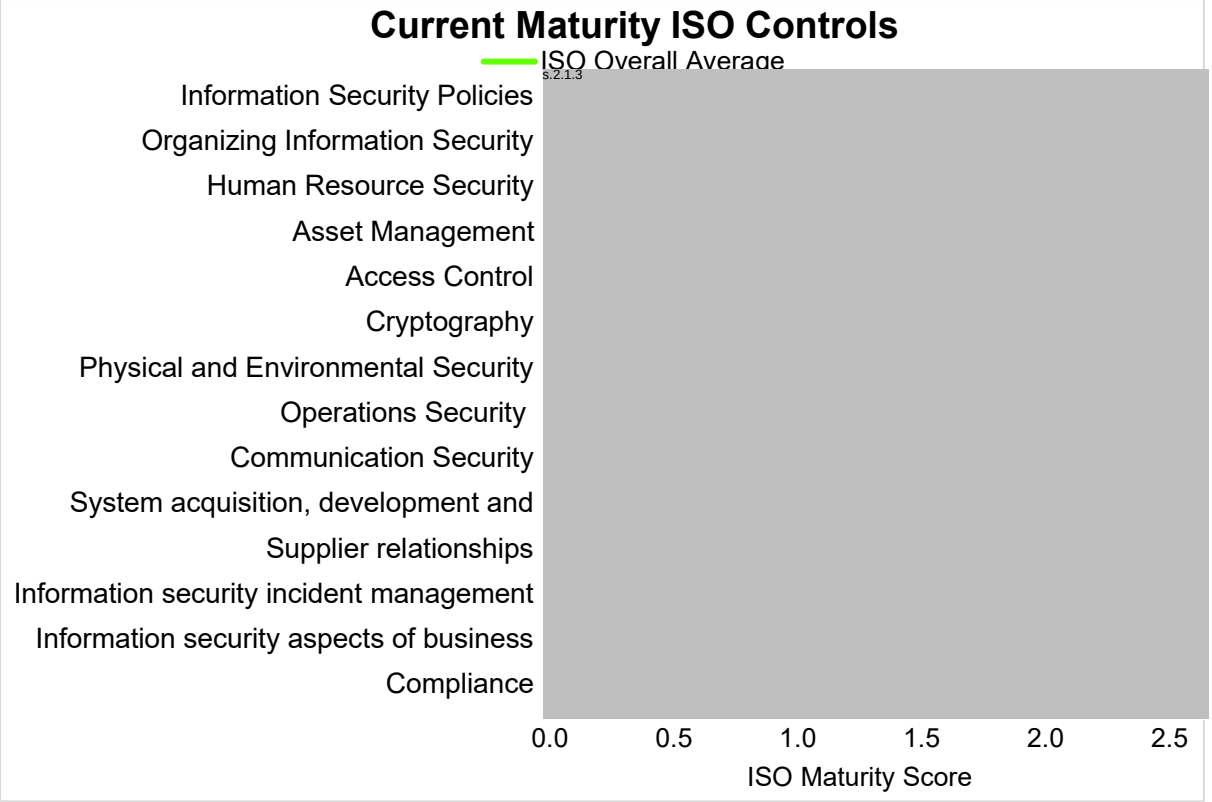

Figure 11. Maturity Scores against BS ISO/IEC 27001:2013

s.2.1.3

Control	Observation
Information Security Policies	s.2.1.3
Organizing Information Security	
HR Security	
Asset Management	
Access Control	
Cryptography	

Physical & Environmental Security	s.2.1.3
Operations Security	
Communications Security	
System Acquisition, Development and Maintenance	
Supplier Relationships	
Information Security Incident Management	
Information Security Aspects of Business Continuity Management	
Compliance	

Table 4. Observations on BS ISO/IEC 27001:2013 Security Controls

2.7 Conclusions & Key Concerns

University of Technology Sydney's current assessed maturity level is s.2.1.3 against a target of s.2.1.3 The outcome of this assessment has identified s.2.1.3 :

s.2.1.3

3 DXC Technology Cyber Maturity Review Approach

University of Technology Sydney requested DXC Technology to provide a holistic view of their security capabilities by conducting a Cyber Maturity Review (CMR) which inspects elements of people, process and technology.

The review was undertaken by two Senior DXC Technology Consultants from the Cyber Assurance and Advisory Practice who specialize in aligning business to security requirements.

The CMR assesses cyber maturity against measurable and defined criteria that integrate a number of industry standards and good practices. The assessment structure is aligned to DXC Technology Cyber Reference Architecture (CRA) shown in Figure 10 below.

The CRA is split into domains which are classified into 3 Categories:

- **Security Strategy and Risk Management**: This category contains 4 domains that cover the management and leadership of the organisation and assesses the drivers, strategy and how well these are cascaded across the enterprise. As part of the category, the assessment includes risk management capabilities and how successfully University of Technology Sydney deploys security solutions and creates a responsive, security conscious workforce.
- **Cyber Defense & Orchestration**: This domain enables the analysis of University of Technology Sydney's ability to deal with security incidents by scrutinizing the areas of real-time alerting, tools and intelligence utilization to effectively identify, understand and respond to incidents. Also under assessment in this domain are the forensic and investigation capabilities, threat profiling activities and the use of security analytics and baselining.
- **Technical Security**: This category assesses the details of how the organisation deploys security and the technical means that are in place to enable the functions such as identify and access management, network security, data protection, and physical security.

s.2.1.3 and s.2.1.4

Figure 12. DXC Technology Cyber Reference Architecture

The DXC Technology model is designed to assess not only the extent to which these controls exist but also how successfully they are actually deployed in the organisation's cyber security environment. An organisation needs to attain sufficient levels of maturity across all the capabilities within each domain to achieve their target maturity state.

Following the interviews and documentation review, DXC Technology consultants conducted a gap analysis and identified the underperforming areas. A roadmap of phased improvements has been created to assist University of Technology Sydney achieve their target maturity.

3.1 Methodology & Scoring Method

To quantify the maturity of an organisation's cyber security, the Cyber Maturity Review utilizes DXC Technology's adapted version of the Capability Maturity Model Integration (CMMI), a 6-point scale originating from Carnegie Mellon University. The diagram below shows the maturity definitions against which each domain and specific capabilities were assessed and scored.

DXC Technology Cyber Maturity Model	Summary Statements
CMMI 5 - Optimizing People, Process and Technology elements are constantly being evaluated and improved upon.	Thought Leaders. Highly Mature. Continuously Improving against, and influencing the best practice. Operational improvement program has been implemented to track any deficiencies and ensure all lessons learned continually drive improvement
CMMI 4 - Quantitatively Controlled Key Performance Indicators (KPIs) controlled against best practice. Seen as having leading service components	Operations are quantitatively evaluated, reviewed consistently, and proactively improved. Seen as having leading service components and procedures
CMMI 3 - Well Defined Documented process/capability in place that meets the objective	Operations are well-defined, subjectively evaluated, and flexible. Some aspects are highly defined and measured while sufficient flexibility exists to adapt to a changing environment and threat landscape.
CMMI 2 - Planned & Tracked Few or no ratified policies, some planned activities in place to implement the objective	Business goals are met and operational tasks are repeatable, yet continual improvement practices are not yet implemented and sufficient stability and history of operations do not exist to demonstrate adoption of defined practices.
CMMI 1 - Performed Informally Ad-hoc process to meet the objective	Minimum compliance requirements to provide security monitoring are met, often in an ad hoc manner. Operations are often inconsistent in execution and based on individuals rather than mature process and procedure.
CMMI 0 - Not Performed No current protective monitoring and/or centralized security operations capability	Operational elements do not exist or are rudimentary.

Table 5. DXC Technology Cyber Maturity Model Scoring Definitions

4 Detailed Scoring

This report contains the results of the DXC Technology Cyber Maturity Review conducted for University of Technology Sydney, which includes an indication of how mature its cyber security is, as well as detailing any identified gaps. Where gaps are identified, high level recommendations are provided, which can be used by for University of Technology Sydney for remediation. Details of relevant DXC Technology work packages are also contained later in the report which can be commissioned to remediate the identified gaps and improve maturity.

It is important to note the definitions of the maturity scores in Table 3 above, alongside the diagrams below. The current score puts for University of Technology Sydney's Cyber Security at CMMI: Level s.2.1.3 .

Following the domain re-cap directly below, (Figure 11), is a detailed representation of the scores output from the CMR, per each assessed domain and sub-domain. Each sub-domain is listed with a scoring rationale and recommendations for maturity improvement. Additional information in relation to the Cyber Reference Architecture and descriptions for each domain and sub-domain can be found in the appendix.

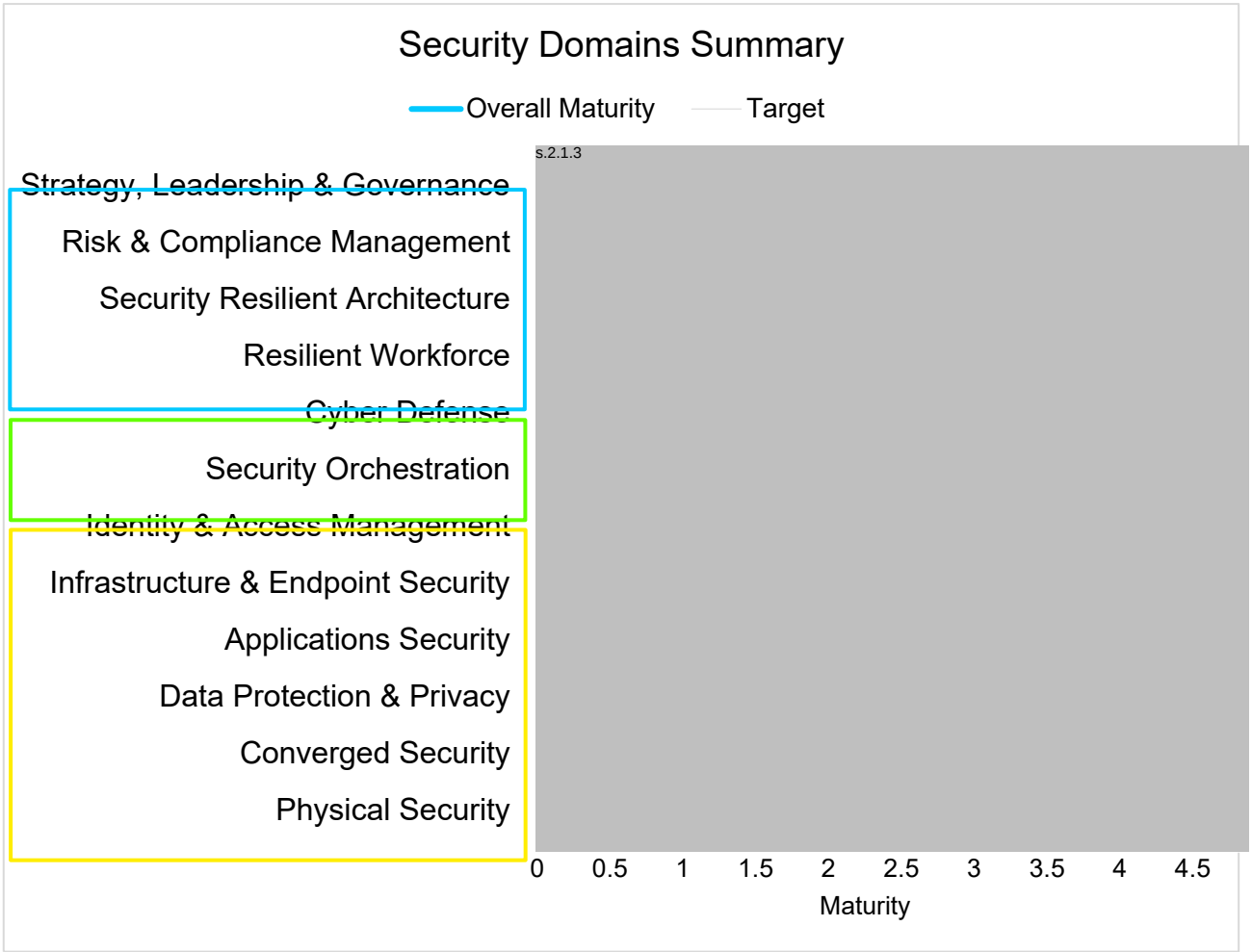

Figure 13. Domain Summary Scores

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5 Appendix

5.1 People Interviewed

CMR Roles	Name
s.2.1.3	[redacted]
Additional Interviews as Requested	
s.2.1.3	[redacted]

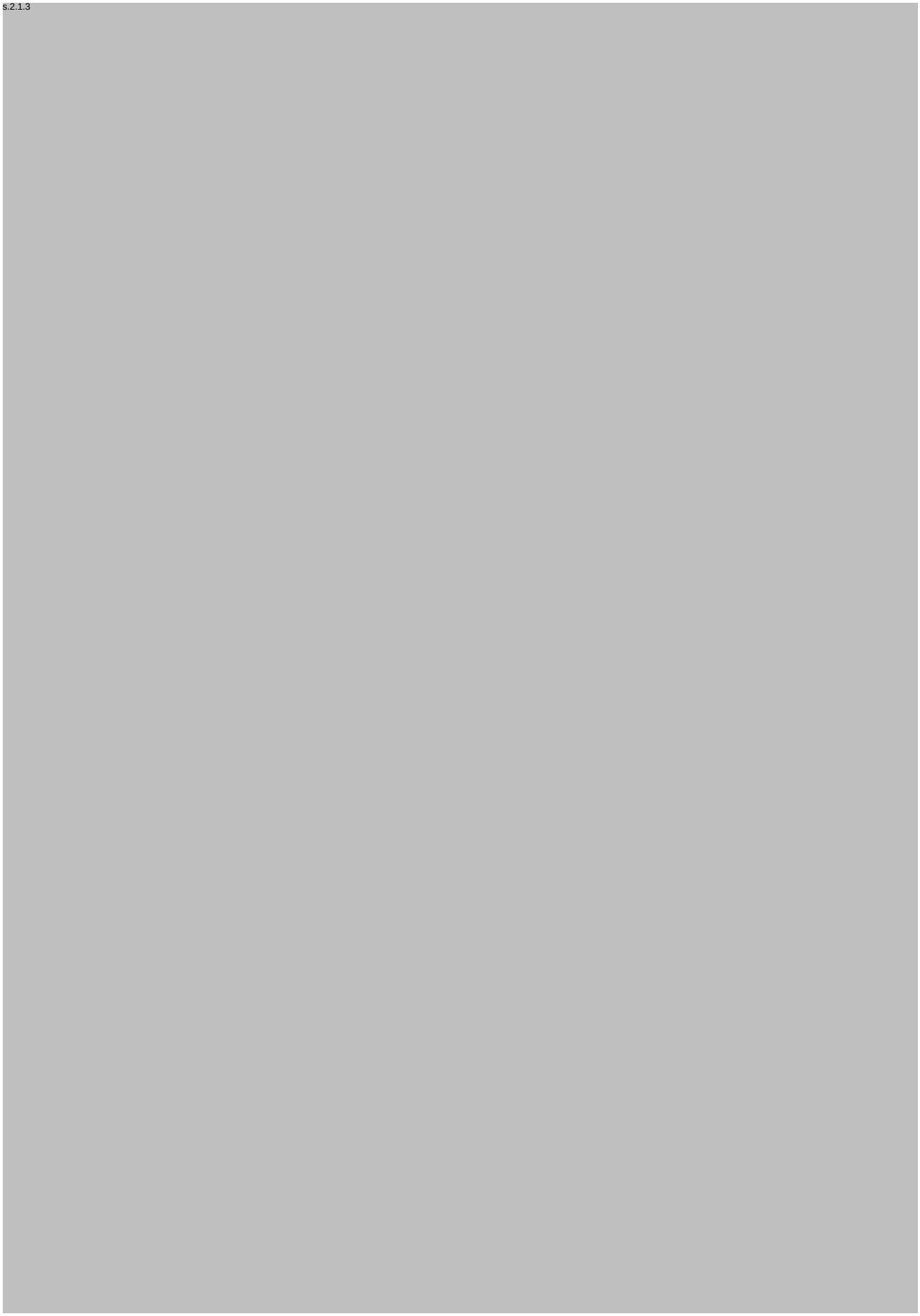
s.2.1.3

Table 30. People Interviewed

5.2 Test Material Reviewed (Requested)

s.2.1.3

s.2.1.3

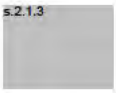
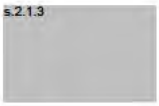


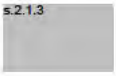
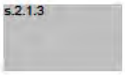
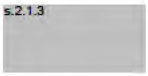
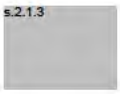
s.2.1.3

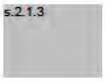
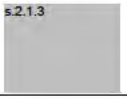
Table 31. Test Material Requested for Review

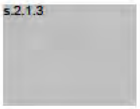
5.3 Cyber Reference Architecture Detail

Drivers	Objective
Business Objectives	Understand the two to five years' business plan, vision, goals and objectives to be achieved to deliver long term benefits to the organisation and its key stakeholders. Understand organisation's financial performance, market approach, R&D Spend, value chain and the main partners and suppliers in it, the key industry trends, etc.
Critical Business Processes & Assets	Identify the core business processes and information assets supporting business objectives.
Key Business Risks	Understand the threat landscape in the industry, main threat actors, what are the known breaches in the industry or previous breaches / security incident the organisation suffered from in the past. And define the key strategic cyber security risks that could impact the organisation that should be addressed and mitigated.

Domain	Objective	Maturity
Strategy, Leadership & Governance	Provide and support security strategic direction and security transformation plan aligned with corporate business objectives and ensure that objectives are achieved by understanding the criticality of information to the organisation, understanding emerging threats, ensuring proper execution of security programs and ensuring proper decision making to address and minimize business risk.	
Sub-Domain	**Description**	**Maturity**
Security Strategy	A long-term strategic security plan to support business objectives, outlining how to preserve the confidentiality, integrity and availability of information assets, and how to manage technical, organisational and process-oriented security risks and threats.	
Security Governance & Organisation	Organisational and governance setup for the management of security to provide strategic direction and ensure that objectives are achieved by understanding the criticality of information to the organisation, understanding emerging threats, ensuring proper execution of security programs and ensuring proper decision making to address and minimize business risk.	
Security Policy	Security Policy specifies the information security objectives of the organisation, defines roles and responsibilities, and establishes high-level requirements for protecting the organisation's information asset and resources. The Policy may be derived from internal requirements (e.g. audit, board direction, information security) or external sources (e.g. statutory and regulatory requirements).	

Domain	Objective	Maturity
Risk & Compliance Management	Processes by which risks are evaluated in light of business activities, value and criticality for the business and legal/regulatory requirements. Risk mitigation activities are then defined to determine an appropriate level of risk balanced with cost/budget and the residual risk to reputation, Business activities and other market factors. Processes by which an assessment to policy is measured, remediation efforts are detailed and gaps are identified. This function is performed by various individuals and teams, including internal audit, risk assessment teams, external regulatory agencies and third party organisations.	
Sub-Domain	**Description**	**Maturity**
Asset Management	Repositories of identified information assets with classifications reflecting the value and criticality for the business, legal requirements and sensitivity of the information asset as well as ownership and security requirements in terms of confidentiality, integrity, availability and traceability.	
Information Security Management System	Definition, design, implementation, monitoring and continual improvement of an Information Security Management System in order to manage the protection of corporate business processes and supporting assets that contribute to business objectives.	
Security Metrics	Define, collect, analyze and communicate security metrics to measure the effectiveness of the security improvement program and security operations against targets, to assess risk posture of the business, to take action and define priorities.	
Legal Regulatory & Privacy Compliance	Processes for understanding and managing of Legal, Regulatory & Privacy requirements applicable to the organisation, mapping to controls and asset to protect corporate, confidential, employee, customer and partner information including personally identifiable information (PII).	
Standard & Industry Compliance	Compliance with standards and regulations is measurable, allowing deviations to be identified, quantified, and managed at various organisational levels within the organisation.	
Risk Management Framework	Methods, processes, and tools to perform risk assessments and evaluate business risk, business impacts and operational security risks, to define and managed associated risk mitigation strategies and risk acceptance.	
Third Party Management Framework	Processes and methods for procuring, on boarding, assessing and managing services and products from suppliers and third parties.	
Audit Management and Certification	Robust audit management to ensure handling of internal, external and regulatory audits. Managing of the remediation of audit findings in a timely manner.	

Domain	Objective	Maturity
Security Resilient Architecture	The translation of businesses visions and strategies into effective enterprise security solutions by developing and communicating a consistent set of security principles, models, capabilities and patterns that provides the direction of the development, operations and governance, describing the enterprise's target security posture and ensuring its alignment to the business needs and changes.	
Sub-Domain	**Description**	**Maturity**
Enterprise Security Architecture	Principles, models, capabilities and reusable objects, describing the enterprise security architecture.	
Security Architecture Single Domain blueprints	Reusable generic templates for one specific core domain of the framework describing dependencies and workflows between capabilities of the core domains highlighting if needed dependencies with any other capabilities outside the core-domain.	
Security Architecture Multi Domain blueprints	Reusable generic templates for specific scenarios or business contexts, involving several core domains of the framework, composing and mapping security capabilities and functions in the enterprise security architecture framework.	
Technical Architecture Standards & Process Design	Standards define the mandatory settings, controls, and requirements that must be implemented to achieve policy objectives.	
Solution Architecture	Solution architecture is a combination of architecture artefacts (including but not limited to overview architecture, high level description, low level description and service management description) describing a solution with clear objectives and expected benefits for the organisation, ready to be deployed that comply with applicable reference security blueprints, and enterprise security architecture components.	
Business Continuity	Processes and plans for resilient capabilities in the event of environmental, man-made or technical failures in business supporting IT services, ICT infrastructure and applications	
Security Architecture Assurance	Authoritative review and approval or rejection of change initiatives with regards to architectural security aspects.	

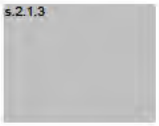
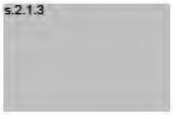
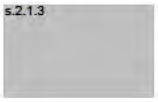
Domain	Objective	Maturity
Resilient Workforce	Promote and establish a security-aware company culture and empower your workforce by getting appropriate, accurate and targeted security awareness training and education to support your business and to enforce protection of your critical and sensitive information.	
Sub-Domain	**Description**	**Maturity**
Security Culture	Security culture describes the way security in the workplace is organized and thus reflects the attitudes, convictions, perceptions and values of the employees and of the organisation with regard to security. Therefore organisations need to build and structure elements of their organisations such as resources and guidelines to reflect their security objectives. Security culture also means a management of change process that makes employees attitudes and behavior more security related.	
Empowered Workforce	Activities to ensure talent and competency development both for attracting and retaining talent for operational security people and managers: recruiting, career development, mentoring program, etc.	
Security Training & Education	Establish a Security training and Education objective. Define and maintain content adequate for different target groups considering national and intercultural aspects, reflective of the present day working environment and the current threat landscape. Define appropriate training packages targeting security teams, IT staff and managers, to provide specific knowledge and skills in order to achieve their job objectives and responsibilities, Including Employee Certifications when needed.	
Knowledge Management & Sharing	Knowledge management regroups activities around the creation, the contribution, the collection and referencing, the sharing and the using of knowledge/information developed by the organisation, the objective being to ensure the best use of knowledge, to identify and promote knowledge and experience, to facilitate employee skill development and collaboration.	

Domain	Objective	Maturity
Cyber Defense	Provide real-time alerting, tooling and intelligence to more effectively identify, understand, respond to and contain security incidents by providing: - overall visibility of cyber security situational risk - understanding of threat techniques, tools, procedures and potential impact to business	s.2.1.3
Sub-Domain	**Description**	**Maturity**
Security Monitoring	Log management and correlating security event logs in order to automatically generate security alerts based on known attack scenario / use cases. Monitor security alerts and incidents as they occur in the environment. Provide evidence in case of investigations and to support Incident Response management.	s.2.1.3
Security Incident Response & Remediation Management	Validate, classify and analyze security incidents (understand what happened, how and why) to ensures adequate and prompt remediation or recovery activities. (Incident Response level 1 and 2).	s.2.1.3
Threat Intelligence & Profiling	Changing the security model from reactive to proactive by understanding your adversaries and so developing tactics to combat current attacks and plan for future threats. Accurate, complete and actionable information allowing for threat modelling, planning and remediation activities to occur. Such information may come from inside sources or external providers of such information. The key is to create "actionable" steps to further protect the enterprise. Processes and plans for establishing, maintaining and testing resilient IT service capabilities in the event of environmental, man-made or technical failures in ICT infrastructure and applications.	s.2.1.3
Digital Investigation & Forensics	Identifying, processing and analyzing digital states and events to find evidence as to how, why and by whom a computing resource was compromised, and collecting, processing and reviewing data in the event of legal action (Incident Response level 3).	s.2.1.3
Vulnerability Management	The cyclical practice of policy definition, baselining, assessing, prioritizing, shielding, remediating and monitoring of exploitable security vulnerabilities in software and firmware in endpoints, infrastructure and other IP addressable assets, including root cause analysis and elimination.	s.2.1.3
Security Analytics	Analytics to allow processing of large volume of unstructured and structured data in order to efficiently identifying, detecting and alerting in real-time of Anomalies or other abnormal events or transactions that are not conforming to expected patterns.	s.2.1.3

Domain	Objective	Maturity
Security Orchestration & Management	Operational security processes for the management, measurement and improvement of security capabilities, integrated with service management processes and business processes.	s.2.1.3
Sub-Domain	**Description**	**Maturity**
Security Process Measurement	Collection, consolidation and reporting of operational security key performance indicators for the measurement, communication and improvement of security performance, maturity and efficiency of security processes.	s.2.1.3
SOM	Operational processes for managing security capabilities, integrated with service management processes and business processes.	s.2.1.3

Domain	Objective	Maturity
Identity & Access Management	The management of identities, accounts, entitlements, and access across multiple systems to ensure the right individual is granted the right access to resources in a fully auditable manner to meet compliance, operational, and security requirements.	s.2.1.3
Sub-Domain	**Description**	**Maturity**
Identity & Account Management	Managing user entities during the identity lifecycle, provisioning and de-provisioning of account ID including non-personal ID.	s.2.1.3
Authentication Management	The process of enforcing centralized authentication policies including credentials and strong authentication.	s.2.1.3
Access Management	Enforcing access authorizations and entitlements to applications and information.	s.2.1.3
Privileged Account Management	Provisioning and enforcement of privileged access authorizations and entitlements to systems and applications.	s.2.1.3

Domain	Objective	Maturity
Infrastructure & Endpoint Security	Rule-based, automated techniques and tools for monitoring, detecting, scanning, blocking, analyzing, detonating, logging and alerting against known and unknown malware, exploits and threats at endpoints and in networks.	s.2.1.3
Sub-Domain	**Description**	**Maturity**
Security Enforcement By Design	Automated enforcement techniques for zoning, encrypting, \virtualizing, intercepting, intermediating, session controlling remote access, wireless access and network access.	s.2.1.3
Rule-based Security Policy Enforcement	Rule-based and automated enforcement techniques and tools for monitoring, scanning, inspecting, blocking, blacklisting and whitelisting unauthorized, illegal and non-compliant access to internal and external resources at endpoints and network infrastructure, preventing malware infections and C2 connections.	s.2.1.3
Known Threat Detection & Prevention	Monitoring, detecting, scanning, blocking, remediating, logging and alerting for malware and exploits, with signature-, reputational- and behavior-based software at endpoints and in networks, including DDoS attack protection.	s.2.1.3
Unknown Threat Detection & Prevention	The detection, analysis, blocking and detonation of web and email content, as well as files shared over the network in isolated sandbox environments or in real time by simulating/replaying end to end communication or sessions.	s.2.1.3
Forensic Analysis and Response	Endpoint and Network incident response and forensics tooling, with collecting, recording, detection, investigation, containment, remediation and threat disruption capabilities.	s.2.1.3

Domain	Objective	Maturity
Applications Security	Methodology, process, expertise, and tools to increase and provide assurance that applications/software meet relevant security requirements, implement required security controls, while reducing the number and severity of vulnerabilities, in order to protect the data and control entrusted to the applications or other software. Industry standard software development practices can result in applications riddled with vulnerabilities, so improvement is required.	
Sub-Domain	**Description**	**Maturity**
Software Lifecycle	Definition of the Secure Software Development Life Cycle (SDLC) Process describing the set of activities to be performed during the development, the delivery and the maintenance, a secure software including Maturity Models/Assessments which gauge strengths and weaknesses of an organisation's security coverage throughout the SDLC.	
Secured Application Development	Process of securely developing and coding applications or software through phases and across different development environments, taken into account application security principles and requirements, leveraging selected and defined development security standards and tools for the software development lifecycle specific to application families and development methods, leveraging secure coding best practices.	
Application Quality Assurance	Quality Assurance process to test functional (end user functionalities) and non-functional (performance, security and operations) application requirements according to software specification including user acceptance testing (UAT) and operational acceptance testing (OAT).	
Release, Deployment & Maintenance	Processes to manage, plan, schedule, deploy and maintain software build, revision and versioning following different phases and leveraging different environments including process to update developed software to address vulnerabilities.	

Domain	Objective	Maturity
Data Protection & Privacy	Methods, tools and techniques to identify and classify information, define data security modelling and associated security requirements, to protect data by preventing unauthorized loss, modification and use of data.	s.2.1.3
Sub-Domain	**Description**	**Maturity**
Data Assurance & Governance	Activities to ensure accountability of data security modelling, data tagging, data discovery, data management, data processing and usage.	s.2.1.3
Data Protection	Methods, tools and techniques to protect data by preventing unauthorized loss, modification and use of sensitive or confidential information.	s.2.1.3
Data Security Lifecycle Management	The process of creating, storing, using, sharing, archiving and destroying data during its lifecycle.	s.2.1.3
Certificate & Key Management	The process of registration, key and certificate generation, distribution, storage, backup, usage, renewal, expiration, revocation, recovery, notification, archiving and auditing of keys and digital certificates.	s.2.1.3

Domain	Objective	Maturity
Converged Security	IT and OT integration generates new security risks and challenges. Assessing and managing these security risks is more necessary than ever before to ensure the continuity of production processes and even to prevent life threatening incidents from occurring. Information Technology (IT) is the use of any computers, mobiles, communication protocols, storage, and other infrastructure devices and processes to create, process, exchange and store, any type of electronic data. Operational Technology (OT) is the use of hardware and software to detect, monitor and control physical devices, processes and events.	s.2.1.3
Sub-Domain	**Description**	**Maturity**
Industrial Controls Systems Security	Security Blueprint to address cybersecurity risks resulting from IT/OT (ICS) integration. An industrial control system (ICS) is an automation system that is specially designed for controlling industrial processes such as production processes in a factory or supporting services such as water management, lightning, escalators, elevators, storage control, transportation and distribution of chemical products, oil, gas, water- and/or electricity supply and so on.	s.2.1.3
Internet of Things Security	Internet of Things (IoT) is a network of smart devices ("Things") containing embarked technologies to capture, monitor or interact with their internal states or the surrounding external environment. Communication with those smart devices is achieved over the Internet to control them, to exchange or create data which has to be protected.	s.2.1.3
Industrial Safety	Manage Safety risks inherited from Information Technology (IT) and Operational Technology (OT) digital convergence within industrial or Internet of Things environments.	s.2.1.3

Domain	Objective	Maturity
Physical Security	Security measures to protect information assets in datacenters and offices against environmental, technical or man-made accidental and deliberate threats that may threaten the availability of information and may cause the loss of information.	s.2.1.3
Sub-Domain	**Description**	**Maturity**
Datacenter Security	Protection of information assets against physical and environmental damage in datacenters and data rooms.	s.2.1.3
Office Security	Protection of information assets against physical and environmental damage at business offices.	s.2.1.3

UTS

UTS Cybersecurity Strategy 2021 - 2024

An increasingly challenging operating environment

UTS operates in a complex business environment and, like all universities, will remain a large target for cyber criminals.

Higher education is also subject to increasing regulatory focus from government and increasing media attention if there is a cyber incident. The challenge of supporting UTS 2027 with technology while staying cyber-safe is significant. Our 2027 strategy requires considerable change including a digital transformation. Our customer landscape is becoming much more complex (undergraduate students, postgraduate students, corporate learners, enterprise partners), as is our product landscape (blended learning, online degrees, short courses, microcredentials, tailored corporate offerings). We are building innovative technologies and offering digitally-enabled services to Australia's largest and most sophisticated organisations. We are competing in new markets, our traditional markets are being reinvented, international borders are being made obsolete by technology, and student digital experience expectations are rising. Supporting all of this from a cybersecurity perspective requires careful planning, decisive prioritised investment and careful risk management.

Business environment

- **Our expanding customer landscape is exposing UTS to greater cyber risk**
- **Financial challenge to make strategic decisions about cyber investment, understanding our appetite for risk and concentrating resources where we can achieve greatest impact**
- **Changes to cross-institution operating models and staffing levels present new business and cyber risks**
- **Highly collaborative and sharing nature of universities are unique sector risks**
- **Evolving flexible working arrangements present new cyber risks that must be managed**
- **Establishment of various UTS overseas operations presents new risks**

Adversaries

- **The cyber threats we must navigate will continue to grow more frequent, sophisticated and aggressive**
- **Increased number of external threat actors targeting the education sector by using a variety of methods, including carefully tailored spear phishing campaigns**
- **Exponential growth of ransomware attacks globally**
- **Evidence of very targeted attacks globally on specific research activity (e.g. COVID-19 vaccination)**
- **Increasing digital connectivity enables accidental errors causing cyber incidents by employees and third parties, increases insider threat risks**

Technology pressures

- **Our technology environment is large, complex and fast-paced – and must become more so to meet the demands of UTS 2027**
- **Cybersecurity often seen as burdensome early on in new initiative planning when the business wants to move quickly**
- **Reactive nature of current COVID-19 business landscape creates pressure to respond very quickly**
- **Ease with which cloud solutions can be procured outside of ITD**
- **Disruptive technologies (e.g. IoT, big data analytics, machine learning and automation) present new risks**
- **Extremely complex nature of university technology environment (e.g. niche research and teaching needs across faculties) makes it impossible to standardise and simplify technology many other kinds of company would**

Regulatory context

- **Significant and increasing regulatory expectations and pressure eg new foreign interference legislation Increasing NSW audit focus on cybersecurity posture**
- **Increasing customer demand for formal attestation of cyber capabilities**
- **Delivery of learning globally (to individuals or corporates) will add additional regulatory complexity**

Independent Cyber Maturity Assessment (2020)

In mid-2020, ITD engaged DXC Technology Pty Ltd (DXC) to conduct an independent cybersecurity assessment as a key input to the new strategy.

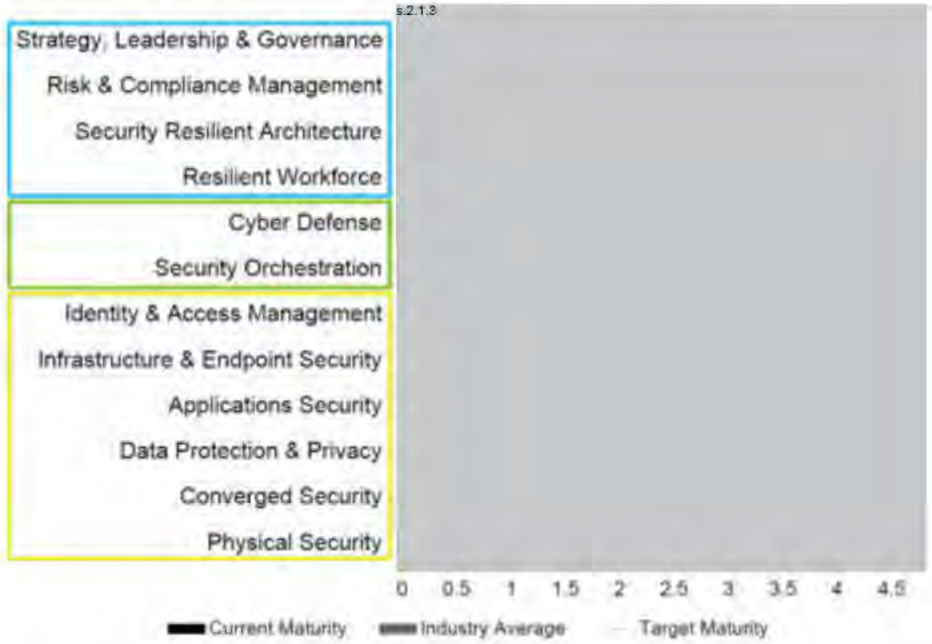
The associated report is based on a rigorous review and formed an extremely useful input to our new cybersecurity strategy. Assessment scores provided by DXC were s.2.1.3 , and provide important perspective on the step change that is required. ITD proposes to leverage s.2.1.3 , and to conduct annual assessments of progress against our maturity targets.

Report conclusions & key areas of concern

s.2.1.3

Overall maturity score

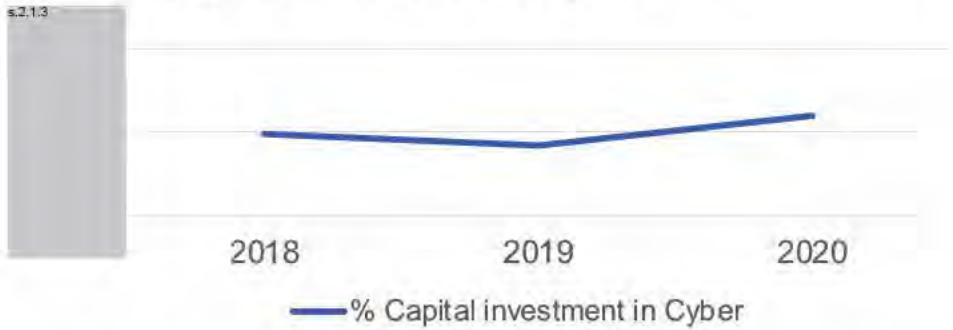
UTS attained an overall maturity score of s.2.1.3 w s.2.1.3 the momentum gained in reaching a maturity level s.2.1.3 will provide the firm foundations to reach further levels of maturity. This momentum would also make formal certification such as ISO/IEC 27001 more straightforward if required.



Snapshot of current cyber capabilities

Cyber investment

In 2020 approximately s.2.1.3 of IT capital project investment was directly allocated to dedicated cyber initiatives. In addition to this several other projects made significant inroads in modernising technology and removing technology debt.



* While 2021 budgets are not yet finalised, direct investment in Cyber is likely to increase proportionally

ITD has a s.2.1.3 IT Cyber team (s.2.1.3)

Key recent improvements to cyber posture

Reinventing the UTS Cybersecurity Strategy

> *"We will adopt a risk-based and measurable approach to lifting cyber capabilities across UTS, significantly reducing our exposure to risk stemming from cyber threats, increasing the resilience of our critical functions, and supporting delivery of UTS 2027. This will be achieved through a series of strategic initiatives over the next four years, underpinned by broad collaboration across UTS and with our peers across the sector."*

Key risks currently being managed:
(to be rev ewed regu ar y as part of UTS R sk Framework)

s.2.1.3

Key priorities for 2021:

s.2.1.3

Key figures:

- Four year Strategy, w th 10 workstreams and s.2.1.3
- Tota est mated project budgets of s.2.1.3 (over 4 years):
  - Capex: s.2.1.3
  - Opex: s.2.1.3
- Project a ocat ons n De very P an*:
  - Year 1 (2021): s.2.1.3
  - Year 2 (2022):
  - Year 3 (2023):
  - Year 4 (2024)

* ncludes s.2.1.3 All estimates subject to normal business planning and approval processes including 2021

The Cybersecur ty Strategy must be f ex b e and adapt ve, w th pr or t sat on nformed by r sk. s.2.1.3). Th s w gu de the pr or t sat on and nvestment eve s of the rema nder of the strategy.

Guiding principles for the Cybersecurity Strategy

A risk based security posture needs to be pragmatic, sustainable, and resilient. It must be tailored to the university and cognisant of constraints while driving for improvement. The strategy focuses on all **people, process and technology aspects**. Below are the guiding principles of our cybersecurity strategy.

Risk based approach

s.2.1.3 [redacted]

Cyber culture

s.2.1.3 [redacted]

Security by design

s.2.1.3 [redacted]

Strong governance

s.2.1.3 [redacted]

Active collaboration

s.2.1.3 [redacted]

Measurable & transparent

s.2.1.3 [redacted]

Zero trust

s.2.1.3 [redacted]

Cybersecurity Strategy

The UTS cybersecurity strategy aligns to the DXC cybersecurity maturity framework, which in turn aligns to the NIST framework.

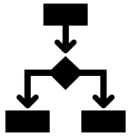
It is structured around three cybersecurity domains in order to enable a holistic approach to people, process, and technology

Strategy, People & Risk

How we define and manage our cyber strategy, frameworks, policies, measurement, reporting, governance, staff, culture, risk management, and compliance

Cyber Defence

How we identify, understand, respond to and contain security incidents. Includes intrusion protection & detection, network control, firewalls, incident management, the Security Operations Centre, and the operating model used



Technical Security & Process Excellence

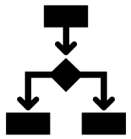
The development and deployment of principles, architectures, capabilities, and processes to ensure our security posture. Includes patch management, vulnerability management, development practices, procurement, DR/BCP, identify and access management, and IoT

Cybersecurity Workstreams

The UTS Cybersecurity strategy will be delivered through 10 workstreams, aligned to the three cybersecurity domains. The workstreams encompass s.2.1.3 initiatives, to be delivered over 4 years

Strategy, People & Risk

Cyber Defence



Technical Security & Process Excellence

	Workstream	Goals – by the end of 2024:
s.2.1.3		

Cyber Strategy, People & Risk

Theme 1: Cyber strategy, leadership & governance

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2024

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Cyber Strategy, People & Risk

Theme 2: Security resilient people

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2024

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Cyber Strategy, People & Risk

Theme 3: Risk & compliance management (slide 1 of 2)

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2024

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Cyber Strategy, People & Risk

Theme 2: Risk & compliance management (slide 2 of 2)

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2023

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Cyber Defence

Theme 1: Cyber defence & security orchestration

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2023

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Technical Security & Process Excellence

Theme 1: Security resilient architecture

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2023

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Technical Security & Process Excellence

Theme 2: Identity & Access Management

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2023

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Technical Security & Process Excellence

Theme 3: Infrastructure & endpoint security (cyber defence)

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2023

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Technical Security & Process Excellence

Theme 4: Application security

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2023

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Technical Security & Process Excellence

Theme 5: Data protection & privacy

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2023

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Technical Security & Process Excellence

Theme 6: Converged security
(Industrial controls, building management, IOT)

Goa	Re ated f nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2023

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					

Technical Security & Process Excellence

Theme 7: Physical security

Goa	Re ated F nd ngs from 2020 Cyber Matur ty Assessment
s.2.1.3	s.2.1.3

Priority Initiatives 2021-2023

#	Initiative	Description	How this mitigates risk	Link to 2020 Maturity Assessment	Implementation (2021, 2022, 2023, 2024)
s.2.1.3					