

STRATEGIC ADVISORY BOARD

Department of Chemical Engineering
Imperial College London

Minutes of Strategic Advisory Board Meeting
held on Thursday 28 October via Microsoft Teams

Attendance:

Board Members:

[REDACTED]
[REDACTED] Omar K Matar (OKM), [REDACTED]

Strategy Team:

Champions:

Minutes:

Apologies:

Distribution: All members of the Strategic Advisory Board, Strategy Team & Champions

Documents Attached

- Chem Eng SAB Update Oct 2021

Summary of Meeting

1.0 Values & Goals

[REDACTED] introduced OKM as the new Head of Department (HoD). OKM provided a high-level update explaining the current work in progress with a comprehensive outcome to be detailed at the April meeting. OKM presented the Values and Goals slides and expanded on the below points:

- 1.1 The College is doing work around values, with the Provost heading a project. Contrasts between the College and department values were highlighted and had been discussed at the Academic Staff Meeting.
- 1.2 Goals remained similar as per previous administration. The values the goals need to be aligned and understood by all. HoD hours were being held twice weekly.
- 1.3 Good stride had been made recently, but endowment remained short of the £50m mark set in 2014.
- 1.4 Chemical Engineering (CE) had a global presence in systems engineering, but work is still required to establish innovative teaching and net-zero.
- 1.5 Complete connectivity between operations in the department within the various elements of teaching, research, operations, finance, safety was identified as a goal.

2.0 Wins

OKM presented a slide and expanded on the below points:

- 2.1 CE is top of the IT sector as well as above the 35 different departments.
- 2.2 CREATE Labs was identified as an example of turning a threat into an opportunity and resilience. It was deemed to be an innovation in teaching and augmented reality of teaching in laboratories. CE had received a highly commended prize at the IChemE Global as well as the President's medal.

3.0 Education: NSS Update

OKM presented slides and expanded on the below points:

- 3.1 CE is at the top of the sector and scored high in satisfaction amongst a graduating cohort. However, the feedback identified three issues. OKM added the courses remained packed despite the curriculum review. The Education Task Force would conduct further exploration.
- 3.2 Working in partnership with the students was noted as a priority, and students are being engaged in committee meetings.

4.0 Education: Current situation – Teaching

OKM presented slides and expanded on the below points:

- 4.1 The decision to open up in person coursework with a reduction in capacity was made in Summer. Unlike the rest of the Faculty of Engineering, lectures were to be online. This has resulted in dissatisfaction amongst two groups: the 2nd year and MScs. Direct meetings have been held to engage and involve the students in the decision-making procedure.
- 4.2 Communication has been enhanced with students through videos uploaded to social media to reach students further; Town Hall meetings and monthly reviews were held to continue the momentum. These have all been well received.

5.0 Education: Student Recruitment

OKM presented slides and expanded on the below points:

- 5.1 The target has been successfully achieved, and the number of female UG students has increased to 40% and an increase in WP students.
- 5.2 The previous year had seen a low failure rate indicating students were well looked after despite the uncertain times. OKM added this spoke to the students' resilience and highlighted the support mechanisms that were in place.
- 5.3 Diversification is required regarding the over-dependence on mainland China. The College has been holding conversations and has made substantial progress. OKM exemplified marketing admissions and recruitment unit set up under the leadership of the Vice Dean, Education and the Business School. Adding **information would be articulated at the April meeting regarding plans for India.**

6.0 Research – (potential) growth areas

OKM presented slides and expanded on the below points:

- 6.1 Net Zero is to be an instrument to enhance reputation within the academic community and employers. The College has prioritised this in the College's strategy and is deemed a positive from a cultural perspective.
- 6.2 ■■■, who won an OBE for decarbonisation, will be a crucial player and in charge of the net-zero lab. OKM highlighted particular excitement around this topic with the President of Petronas having visited the Petronas Centre. The Provost and Deputy Provost were also in attendance.

- 6.3 Industrial funding will become increasingly essential but currently lacks a written strategy.

7.0 Research - Income & financial position

OKM presented a slide and expanded on the below points:

- 7.1 Funding applications are anticipated to hit the target zone. However, it needs to be ensured the industrial income is high enough to support the inevitable dip in public money, almost certainly because of levelling up.
- 7.2 [REDACTED] and OKM have been identifying strategically essential partners and synergistic complementary ways to work with people. Coupled with an expansion of the industrial base could potentially provide some mitigation.

8.0 Enterprise

OKM presented a slide and expanded on the below points:

- 8.1 The Enterprise Committee had been established working in synergy with the Research Committee. These, coupled with the Strategic Advisory Board and the seed fund cluster connection to the university, could provide dynamism in the department.
- 8.2 OKM stressed that the goal is to establish and embed translation to become the third leg in the department legitimately. **This would be better explored at the April meeting.**

9.0 Operations

OKM presented a slide and expanded on the below points:

- 9.1 A new position as Director of Sustainability is to be instated and will work closely with [REDACTED].
- 9.2 A clear strategy for Space is required. [REDACTED] Director of Resources, has formed a Space Working Group to look at lab, non-lab and hybrid working Space. White City is also part of the agenda.
- 9.3 Return to Campus Working Group has been formed and represents everybody in the department. Two meetings have already taken place.
- 9.4 Outcome-centric processes are in progress to move away from email. The intention is to establish visibility of ownership of tasks, timelines and connection points. **This would be better explored at the April meeting.**

10.0 Q&A/ Feedback

The SAB members commended OKM on his work to date and presentation. The SAB members were invited to ask questions and provide feedback. [REDACTED] summarised these as below for OKM to respond:

- 10.1 **How will the dissatisfaction felt by students be rectified?**
OKM acknowledged the contrast in terms of decisions made across the faculty, and [REDACTED] explained it was only for the autumn term, and no decision has been made for the spring term yet. Students were under the impression that this was for the rest of the year, believing there would be no in-person teaching. [REDACTED] corrected that there were many in-person teachings planned and every student would have elements of coursework, labs, projects, the first year but noted this there had been communication issues.

OKM deemed the situation recoverable, adding students can now see decisions won't be arbitrary, conversations held are detailed and with available

timelines. OKM emphasised he is working with [REDACTED] a key person the students and representatives trust. It was noted [REDACTED] and the representatives stood in agreement with decisions made and would assist in delivering the peer-to-peer messaging.

ACTION [REDACTED] recommended that this item be prioritised at the April meeting to demonstrate progress, containment, and movement.

10.2 **Issues around diversity to be provided and detailed**

[REDACTED] stated this year's intake figures were not accessible, but traditionally, approximately 45% female students were in the MSC program. The UG data was being reported to highlight the success achieved as part of the outreach work done over the years. [REDACTED] added the figure had risen from a low 30% representation rate, and datasets could be provided at April's meeting.

[REDACTED] added he would be happy to coordinate and compile the datasets of students and staff to provide a holistic picture integrated across the department.

10.3 **Ratings and metrics - clarity, transparency and frequency. Commitment on getting the scorecard together and also how it's going to be monitored, tracked and reacted to**

OKM assured the department would deliver on the ranking and aimed for demonstrable success in the area.

[REDACTED] added that the metrics for the translation and enterprise were being reviewed and clarified that there are essentially two matrices: input and output. [REDACTED] explained an opportunity had been identified to work with two companies. [REDACTED] and [REDACTED] have been enlisted as mentors and advisors, and [REDACTED] encouraged others to sign up.

[REDACTED] stated significant departmental activities had now been approved, such as an approved £100K on the next round of the seed funds. The process would request participation in the assessment and the judgment process of proposals submitted in the following months.

10.4 OKM thanked [REDACTED] for all their continued work regarding the student experience

ACTION A follow up note to this meeting was requested to highlight the below headings and demonstrate how these are important issues and will be addressed in the next meeting:

- 1 Student reaction and process.
- 2 Diversity issue.
- 3 Ratings and metrics.
- 4 Translation & Net Zero:
 - A) what is it you are famous for and needs to be a subject of its own?
 - B) To what extent are you collaborating both within the university and other departments outside, within the UK, on the levelling up or internationally to reinforce an international position?
- 6 Publications and publication impact.

Next meeting date

12:00 Tuesday, 26 April 2022 to 14:00 Wednesday, 27 April 2022

AGENDA

STRATEGIC ADVISORY BOARD MEETING DEPARTMENT OF CHEMICAL ENGINEERING

DATE: 26-27 April

START TIME: 12.00 pm

VENUE: Imperial College London, South Kensington, ACEX Building, Room 452

Time	Location	Meeting
Tuesday, APRIL 26		
12:00 - 13:00	228	All permanent staff Buffet Lunch with the Strategy Team
13:15 - 15:30	452	<p>SAB Meeting with the Strategy Team</p> <ul style="list-style-type: none"> ➤ Brief update on strategy and meeting objectives from SAB Chair ➤ Introduction to session ➤ Scene setting ➤ High level update <p style="text-align: right;">OKM/ [REDACTED] OKM OKM</p> <ul style="list-style-type: none"> ➤ Summary of progress since last SAB on strategy implementation <p style="text-align: right;">OKM [REDACTED]</p> <ul style="list-style-type: none"> ✓ Quick wins ✓ Medium term plans ✓ Challenges: <p><u>Education</u></p> <p><u>Communications</u></p> <p><u>Resources</u></p> <p>Each Theme 5mins presentation/10mins Q&A</p> <ul style="list-style-type: none"> - Enhancing student experience [REDACTED] - Resources and people to win [REDACTED] - Enhancing reputation and allegiance [REDACTED] - Elevating research performance (OKM)
15:30 - 15:45	452	Coffee break
15:45 - 16:15	452	Update on culture and behaviour (OKM) Rewards, recognition & development
16:15 - 16:45	452	SAB preliminary reflections and feedback
16:50 - 17:50	228	Student Experience: Session with students (UG, MSc, PhD)

17:55 - 19:00	228	Postdoc Experience: Session with Postdocs
19:15	170 Queens Gate (Solar Room)	Dinner: SAB & New starters
Wednesday, APRIL 27		
09:00 - 10:00	452	SAB Meeting (SAB Members only) Coffee & pastries
10:00 - 10:45	452	Professor Ian Walmsley (Provost) meeting with SAB
10:45 - 11:15	452	SAB Feedback Session with the Strategy Team
11:15 - 11:40	452	Fundraising discussion (SAB & Strategy Team)
11:40 - 12:00	452	Actions and Next Steps (SAB & Strategy Team)
12:15 - 14:00	C617 (CPSE Common Room)	Buffet Lunch (SAB & Strategy Team)

Strategic Advisory Board Attendees:

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Imperial College Chemical Engineering Attendees:

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STRATEGIC ADVISORY BOARD

Department of Chemical Engineering
Imperial College London

Minutes of Strategic Advisory Board Meeting held on 26 & 27 April 2022

Attendance: Board Members:

[REDACTED]

Strategy Team:

[REDACTED]

Distribution: All members of the Strategic Advisory Board & Strategy Team

Documents Attached

- Chem Eng presentations
- Agenda and Pre-Read Pack

1.0 High level update (OKM)

A high-level update of the Department's strategic priorities and highlighted the following matters from the presentation:

- Teaching effectiveness remained stable during the Pandemic with augmented reality to deliver laboratory learning outcomes.
- Next year's NSS ranking would indicate if hybrid teaching was successful.
- No IChemE awards were received this year.
- Relationships with sponsors need to be professionalised with lead contacts initiated to keep sponsors 'warm' particularly as diversification of funding sources will be required.
- There is clear blue water between ICL and the competition in terms of the metric of income per academic.
- Due to the dip in reputation in the ranking tables, a discussion was held about what employers and the people they speak to are saying about ICL. **A sample and survey was suggested, exploring what the perception is out there.**

Q&A

The below items were discussed:

- Space remained a priority, and [REDACTED] was requested to submit a 10-year plan to the College. The plan included the Net Zero Lan (NZL) and the request for space at the South Kensington (SK) campus and translational space at the White City (WC) campus for existing space such as the iHub.
- The 5-year plan includes NZL, which can be built on the roof of the Roderic Hill (RODH) building with a presence at WC. Two other potential challenges

were noted in the plan associated with Vaccine Manufacturing, and Industry4.0.

- The Provost is aware of a request for space, but the transparency of space allocation remains an issue.
- NZL would enhance the flow of collaborations, sponsorships, revisions of the curriculum and attractions of people to the space.
- The Department needs to ensure that there is a clear USP compared to other institutions.
- Exposure to the Chinese market and others is an issue. In-depth details of how NZL would fit into studying would be required.
- Diversification of resources to attract money needed.
- IF>10 papers and Awards and Recognitions are a good indicator of how influential CE is perceived.

Other questions raised by SABs included:

- Can we continue to attract the top talent from around the world?
- How is research spending effectively measured, and is this competitive with other UK departments?
- How do research funding and resource spending relate to impact? Are we making the best use of the large time spent applying for funding?

Communications (SW) presentation

The below items were discussed:

- Only one press officer is available for nine departments in the Faculty of Engineering.
- Students have busy schedules and may not have time to input; however, more work with student reps and PhD casual workers is ongoing.
- CEOs, CTOs and people who employ graduates and support research to be approached to enhance employer reputation.
- It was discussed if a structured web form on the Department website would encourage more submissions and could track and guide the story requirement process.

Three issues were discussed and noted to be beneficial with reputation indices:

- How do you mobilise people to provide stories?
- How can stories be about impact and excitement and newsworthy?
- Can we pick the right audiences and suitable media (social media vs legacy media)

Education (JH/CK/RC) presentation

The below items were discussed:

- Wellbeing is a critical and evolving challenge, with 40 complex cases being dealt with by Wellbeing Advisor at the UG level.
- It is believed that students already come with underlying well-being issues, which later manifest themselves. The possibility of factoring this into the application process to better understand and allow for support was contemplated though it should be made clear that this would have no bearing whatsoever on the decisions made at admissions.
- 1st-year students have not sat a formal exam and find this a high-stress environment. [REDACTED] determined formal exams must be sat to demonstrate competency. [REDACTED] stated this should be explained and communicated.

- The pressures of a new academic environment that have been diagnosed with the MSc is the main issue rather than severe mental health issues; the same is true for UGs.
- 'Open Dialogue' peer-group assistances were discussed but concluded that a College-level approach would be bound by confidentiality.
- The Wellbeing Advisor is not a psychotherapist and worked with other resources, and 'Look after your mate' workshops have been initiated. Preparations to revert to pre-pandemic approach, with the virtual model being a safety net in place.
- The intention is to go back to in-person interviews and rebuild relationships with international schools within Southeast Asia in place.
- More Alumni engagement is required with a need to reach out to South East Asia, China and Nigeria to increase ground-level encouragement.
- Two recruitment videos in place of one, with a more inclusive language applied. *
- There is a mismatch between student and department expectations this year. Seventeen talented students were recruited this year from WP and EDI, and all have some form of scholarship.
- 4th year UG, Chemical Engineering Society proposed an online outreach event for schools. ■ is liaising with the College team to discuss how best to approach Schools for outreach works.
- ■ has made various online packages available on YouTube to reach out to potential and current students and link in with occasions taking place, to target specific audiences.
- Learned Societies such as Engineering World of Chemistry have projects starting this year, e.g. to support the arrival of WP students at University. All the students this year have been invited for a summer school which is fully sponsored as well as an invitation to join the Imperial Festival.
- Communication is required to celebrate the success of the number of women on the course required.

*■ clarified that the promotional video used to start with 'we recruit the best and turn them into the best of the best' and felt this was not an inclusive message. The message was changed to looking for students with a consistently first-class equivalent requirement in their home institutions. ■ did not want to discourage people who were not in the top 5-10% of the class from applying. ■ believed it needed to be consistent, and the narrative should not be changed.

Student Experience (PSF/CJT) presentation

The below items were discussed:

- There is a need to develop a robust wellbeing system to support the students as well as the Wellbeing Advisor.
- **OKM to explore if there is the capacity for spontaneous drop-ins.**
- Students are encouraged to go on internships, but this is organised by students themselves and not the Department.
- End of project drinks, and parties are taking place to incorporate an element of fun. Mastery class is part of the curriculum and part of Final Year Design teambuilding.

Resources (EAM/AASP) presentation

The below items were discussed:

- A large contingent of new academics will require more space as activities grow.

- [REDACTED] stated that £400k per person is a good target and including the layout of labs and full detail of the research program would be a more compelling reason for the college to commit to space requests.
- WC has a clear set of targets and identified space and areas but should also align with other activities in college.
- Non-staff expenditure can be used for the general running of the Dept, refurbishing labs and offices, and supporting scholarships.
- Contributions from the Department to the college will be going up.
- CE has the highest income per capita of any department.

Elevating research performance and impact ([REDACTED]) presentation

No additional comments made.

Enterprise ([REDACTED]) presentation

The below items were discussed:

- [REDACTED] stated it would be essential to form relations with VCs such as a CE demo day on the scope of innovations which can bring in investors and corporate VCs.
- [REDACTED] expressed a stronger connection with the Enterprise Hub was required as it provided training, experts and advisors on IP. Above all strong recruitment campaign and more mentors are needed.
- IP output was noted as a critical driver and with a question mark around how best to incentivise readers and PIs to patent more.
- More involvement of Alumni is required, possibly through mini advisory boards.
- Communication of stories required.

Sustainability (OKM) presentation

The below items were discussed:

- The SAB and [REDACTED] praised the Department for this new initiative.
- It was suggested that the College could be approached to fund this initiative particularly if savings result from the work of the Sustainability Committee.
- It was suggested that the Sustainability Committee should establish a connection with their IChemE counterpart.

2. Update on values, culture and behavior (OKM & [REDACTED] presentation

The below items were discussed:

- OKM reiterated the college and departmental values, and strategies to ensure that values are owned by staff and students
- [REDACTED] presented a college update including the Athena Silver renewal (May 2022), Race Equality Charter (Bronze award Nov 2021), Stonewall top 100 recognition, and updated college EDI leadership
- Historical statistics on M/F employment at all staff grades, as well as student recruitment (UG, MSc, PhD), were presented; overall the trends are positive, in particular at lecturer (40/50% F) and professorial (24% F) levels.
- Increase in WP offers (35), and robust attainment of WP students (within/slightly below average).
- Activities to support WP students discussed, including RAEng summer school and Imperial festival invitation.
- [REDACTED] reported that the Equality, Diversity & Culture Committee (EDCC) has been restructured to ensure greater agility and effectiveness. Relevant KPIs have been selected to guide successes. ChemEng Athena SWAN renewal is due next July 2023.

- EDI training and ChemEng contextual training was discussed. [REDACTED] requested SAB involvement for recommendations and advice based on their experiences.
- A range of ED&I events, both training and celebration, were discussed including LGBT, women in science and engineering, supporting and mentoring PDRAs, mental health awareness (Perfectionism and Imposter syndrome), and sharing best practice with other institutions.

3. **SAB Feedback session with Strategy Team**

Student session feedback provided and noted as below:

UGs	
Working well	Areas requiring attention
Recognized many staff to be excellent.	They were distressed by the absence of a lecture theatre when other departments on campus were able to come in.
Some of the infrastructure is improving.	Pods have not been accessible due to H&S.
Socializing and seating spaces.	Balance of in person, space and community and peer interaction.
	There is tremendous anxiety around exams and not just COVID but the density and intensity of exams in one period when other departments on campus have more spread-out exam timetables.
	Quality of infrastructure of toilets

MSc	
Working well	Areas requiring attention
Certain staff took student well being into consideration and handled issues well.	Felt they were mis-sold the courses and paid a lot of money for a product they did not receive.
The Curriculum is very interesting and diverse.	Felt were missing promised modules.
Lots of choices in modules allowed for the students to explore their potential interests.	The business Module component does not happen now.
The study space was well maintained and clean.	Space issues.
Updating models to fit the global landscape allows for students to explore their current interests.	Teaching and feedback issues and lack of communication.
Organization research project.	Felt Faith was being mistreated in terms of being poorly rewarded and supported and cited the current support as inadequate.
	Feel taken advantage of and felt undervalued
	Cost implications such as accommodation vs teaching being available only online
	Timetables were not issued in time

█ explained a letter to students regarding online teaching had been issued. █ added this was following a mandate from the Home Office but accepted it was incorrect not to prioritise in-person activities.

Better staff and student communication was required to change behaviour around time management, e.g. PhD and teaching hours and could this be embedded.

OKM acknowledged all the points raised and stated these were rectifiable.

4. **SAB Feedback session following meeting with Provost:**

The Provost's approach was praised and considered to be a vital resource. The Provost was willing to listen to NZL ambitions but would have to think about how this aligned with the college strategy as this would need to go through the Faculty of Engineering and had to be fair and balanced. **It was concluded that the Provost understood the value of NZL, but the narrative required more work. OKM agreed to take this task on.**

5. **SAB Recommendations:**

The SAB members were very impressed by the Strategy Team and applauded them for recognising and taking onboard the critical yet constructive comments. They also added that the objectives and ambitions were clear, and that the Strategy Team had managed to synthesise elegantly the strategies, ambitions, successes and shortcomings, and values.

The below recommendations were noted:

- An analysis into drivers and gaps for achieving 'clear blue water in the UK and top 3 in world' objectives is required.
- Space ambition requires refining and articulating the justification of space in a compelling way that aligns with the College's strategy, capacity, and capability.
- More analysis of the sources/areas to target for research funding and the effort/impact balance is required.
- KPIs to be explored with a rethink of targets and a better understanding of data to identify funding/expertise/impact gaps being necessary.
- The pandemic has impacted the student experience, but there are easy fixes that should be implemented and communicated upon completion.
- A comprehensive plan around internal communications and genuine dialogue is required.
- What are the gaps in reputation for being perceived as world-leading by employers?

OKM committed to addressing all issues raised and thanked the SAB members for their feedback.

6. **Feedback from the Strategy Team:**

- More analysis around exams and their immediate impact is required.
- █ to leverage their roles on the Advisory Board for the College Transition to Zero pollution initiative and work with █ and OKM to develop a space vision and systems thinking for NZL.
- There is an evident loss of peer-to-peer communications due to the pandemic.
- Lab time and interaction with supervisors for MSc students to be added.

- MSc tutors have been contacted and will have more in-person interactions with tutor groups.
- A series of social events had been organised for MSc, including the end of exam celebration, formal dinner in June and the BBQ in late July/ early August, and another event in September for the end of year celebration.
- The research project will be an opportunity to make use of the Research Skills Training Workshop to increase the MSc students' critical thinking and provide additional support for giving oral presentations and improving technical writing.
- Staff well-being and retention are also paramount.
- 'You said, we did' approach to be employed and published as a means of demonstrating to students that the Department is listening to feedback.
- Estates Facilities were not responsive (and issues involving defects, such as broken toilet doors, for instance, are being addressed in-house).
- Lunches with students were already being offered, and informal lunches with MSc students would be initiated.
- Utilise personal tutorial schemes to receive honest feedback potentially through 1:1 sessions. ■■■ expressed the view that year reps often provide skewed and partial information and suggested that personal tutorial schemes be used for MScs.

■■■ stated that Task and Finish Groups had been utilised previously to work on well-defined tasks over relatively short timescales for delivery. **It was agreed these T&FGs would be reinstated.**

OKM stated he would be willing to offer exit interviews to all graduating undergraduate and MSc students either in person or via Teams

■■■ recommended a balance is required between targets and metrics on the one hand and culture and ambience on the other, combined with a refresh on personal communication

7. Fundraising discussion

Following a discussion, it was agreed that

- A Departmental Alumni Relations Officer be appointed
- A strategy for alumni relations be drafted; OKM agreed to do this. The link with the Departmental Outreach Officer is important as is the development of an effective alumni communications strategy. It was also important to involve the Chemical Engineering Society in these efforts.
- The purpose of the work to be done on the alumni relations front is to strengthen the bonds with alumni (for instance, in terms of organizing reunions, keep alumni abreast of developments in the Department etc.) and is distinct from the collaboration with College Advancement on fundraising.
- The NZL and associated success stories will attract donations from benefactors interested in the transition to net zero and climate change. These donations will help to grow the Departmental endowment fund and pay for student scholarships.
- It is possible to link a number of VCs to the Departmental Enterprise Committee who can provide funding to replace the Departmental seed fund.

8. **Actions and Next Steps**

- **It was agreed that the minutes of the meeting will be produced as soon as possible and shared with the members of the Strategic Advisory Board and the Strategy Champions together with the list of actions and associated timelines.**
- **It was also agreed that careful consideration must be given to the agenda of the next meeting and the length of the presentations by the Strategy Champions to avoid rushing through the various items (as was the case for yesterday's meeting).**
- **Lastly, it was agreed that it would be prudent for OKM to arrange a meeting between the SAB and the new President of Imperial, Professor Hugh Brady, at the earliest opportunity possible.**

Department of Chemical Engineering, Imperial College London

Questions from the SAB following the October 28th telecall

The October 2022 telecall took place on 28 October on Teams. The following colleagues were present:

- SAB: [REDACTED]
- Department: [REDACTED]
- Apologies for absence:
 - o [REDACTED]
 - [REDACTED]

OKM gave a presentation which was followed by a discussion and several questions were put to OKM, the Executive, and the Strategy Champions; these questions are listed below grouped by topics together with the Departmental responses.

Education & Student Experience

- *What actions will the Department take in response to the drop in our NSS rankings (from top in 2020-21 to 7th in 2021-22 in Overall Satisfaction)?*
 - o Timetabling
 - o Academic Support
 - o Excessive workload

Two aspects of timetabling have often been raised; late publication of the timetable and clashes (labs/coursework and electives). For the first point, we will work closely with central timetabling with the aim of publishing next academic year's timetable by July. This will be before the end of the current academic year. We will also ensure that all teaching allocations are finalised as early as possible (just before or just the Christmas break). For the second point, we will minimise these clashes as far as practicable.

With our return to in-person teaching, we will be using our personal tutorial system to provide additional academic support. Topics planned for discussion during these personal tutorials include wellbeing, skills, electives, internships, etc. This is underway.

The new curriculum is, as of this academic year, fully implemented across our MEng programme. The new curriculum should lead to a ~15% reduction in workload. We will, however, continue to monitor the impact of the new curriculum, and, where appropriate, make necessary adjustments to continue to reduce workload that adds no value to education and the student experience.

- *Why is there a large drop in the NSS response connected to the Student Union?*

[REDACTED] tendered his resignation from the SAB following the meeting, which was accepted by IDS and OKM.

There has been a long-standing misunderstanding of the purpose of the question/statement associated with the Student Union, “The students’ union (association or guild) effectively represents students’ academic interests”, by our undergraduate students. This, we believe, is the reason for the perennially low score in this category. The Department (and the Faculty of Engineering) has raised this issue with past Student Union Presidents, but no progress has been made.

- *How many MSc and PhD students have we accepted for this academic year?*

132 MSc and 23 PhD students

- *How have we handled the complaints by the MSc students from the previous year?*

Following the April SAB meeting, the following issues were identified:

- The students felt they were mis-sold the courses and paid a lot of money for a product they did not receive.
- The students felt they were missing promised modules.
- There were issues with the business module component, space, teaching and feedback, and a perceived lack of communications.
- The students simply could not understand why lectures were online, particularly considering the cost of living in London.
- Timetables were not issued in time

The Department took a decision in September 2021 to start the 2021-22 academic year with remote lectures and prioritise in-person laboratory and project work. Indeed, we offered all MSc students space for the APD project, but lectures remained online. This decision was revisited in January 2022 when we also had an additional lecture theatre available. Lectures returned to being mostly in-person and student satisfaction increased significantly. All research projects were carried out in-person during the summer term. Feedback to the MSc team and the MSc external examiners, who met the students during the poster session in September 2022, was very positive. The requirement for students to be present in London was dictated by the Home Office, rather than the Institution or Department. Additionally, all timetabling was affected by a technical problem that was eventually addressed. Although we placed great emphasis on student communications, it is apparent that our strategy was not successful. From May 2022 onwards, we organised a series of social events, published a ‘you said, we did’ document (in response to feedback MSc reps shared with the SAB) and increased our face-to-face engagement with the students.

- *Employer reputation?*

Data on employer reputation, and graduate prospects for the Department will be shared with the SAB at the Spring meeting.

Enterprise

- *How will we set up the Enterprise Task Force? The suggestion from [REDACTED] is to make a pool of possible investors and the team can present to them and then afterwards there would be a subset (2-3) from the investors (may/may not be SAB members) who can help.*

Following discussion, it was agreed to first to establish credentials by surveying past spinoff and other successful entrepreneurial activities from the department, and identifying/packaging those currently under way, their status and ask. This is underway. To enlarge the potential participants outside the SAB, SM recently established a contact with a couple of potential early-stage investors and potential mentors. We will be sharing this with the SAB shortly.

- *Is there an increase in collaboration with the Enterprise Lab? Can some of the EL material be used by the Enterprise Committee?*

We have a close collaboration with the Industry Partnerships and Commercialisation part of college Enterprise, which is the channel directly responsible for the Faculty of Engineering, as well as the Vice-Dean for Enterprise in the faculty, for example on IP protection, spinoff assistance and monitoring, and access to Industry Technical Experts (ITES). Material and initiatives from the Enterprise Lab are being circulated to academic and other staff (although there is a perception they cater mainly to students), but possibly a closer direct link could be developed, for example on access to funding.

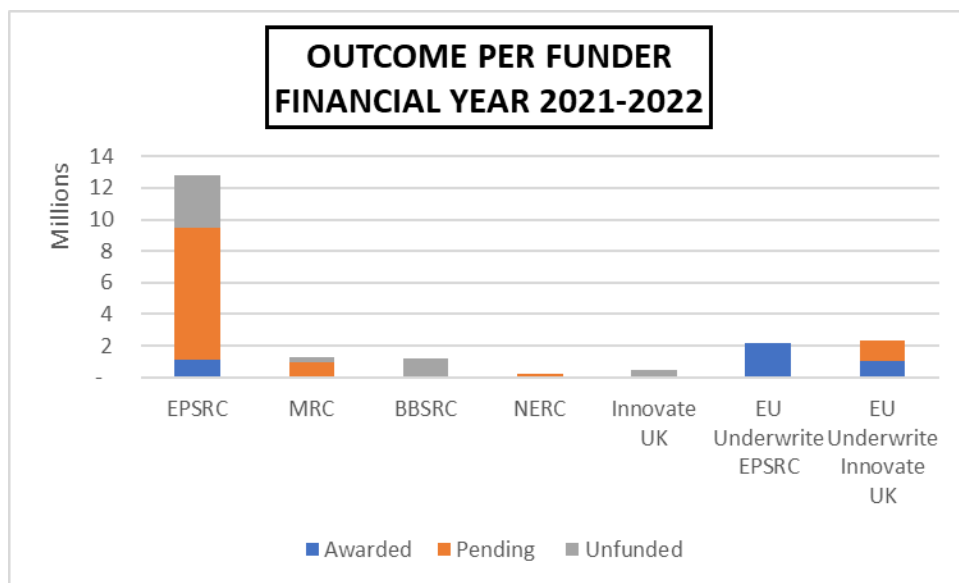
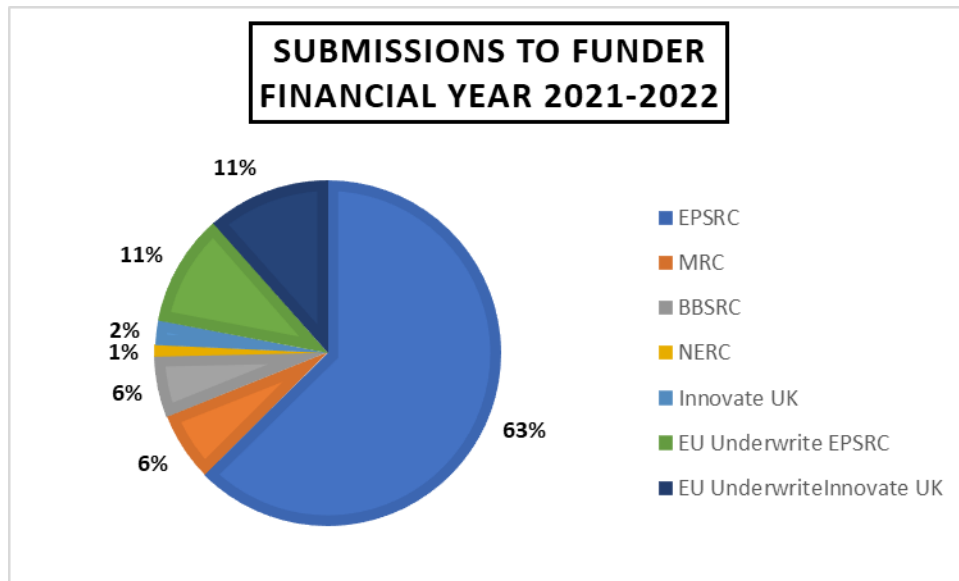
Funding

- *What actions will the Department take in response to the apparent drop in industrial research funding?*

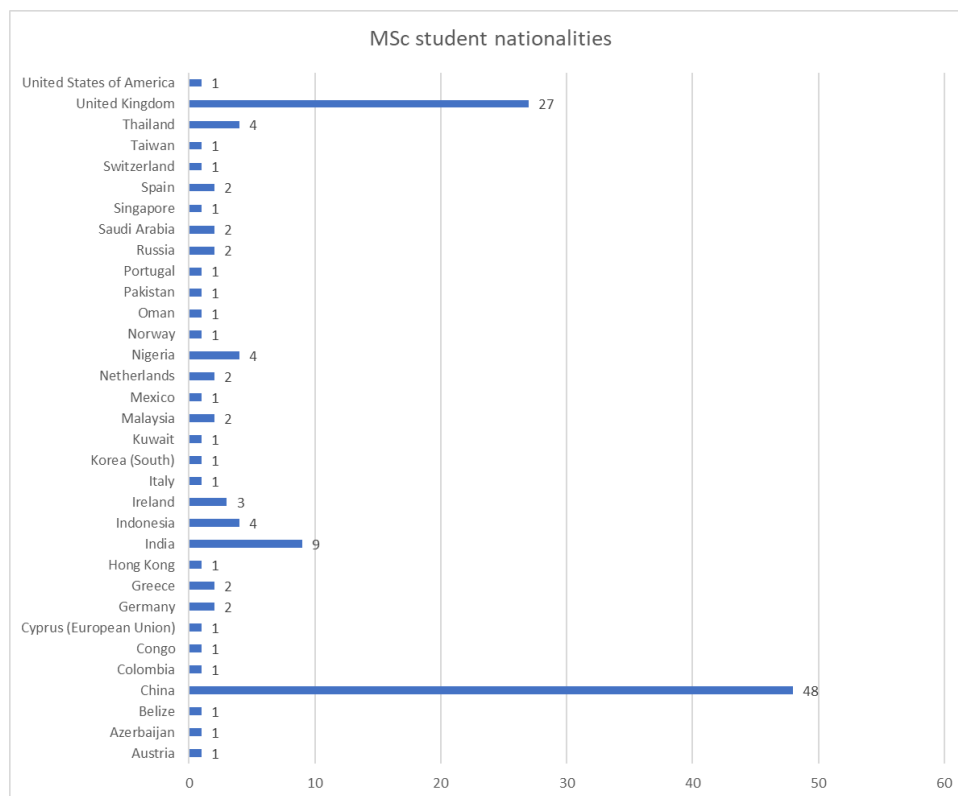
Our action plan features the following:

- Crystallise the Department's unique value propositions around Net Zero, Vaccines manufacturing, and re-inventing the Chemical Industry (I4.0, sustainable feedstocks, etc.).
- Create a compelling narrative for our industrial and healthcare partners based on the above UVPs.
- Engage with our partners through high-profile events, led by OKM and [REDACTED], and endorsed by the College Industry, Partnerships & Commercialisation division and the Faculty Dean.
- Maintain a database of key industrial contacts and introduce the concept of 'Relationship Owners': academics in charge of maintaining and growing the relationship with our partners, and of introducing these partners to the early-career researchers.

- What is the distribution of funding among the Research Councils in UKRI?



- *Please could we have the MSc overseas student distribution?*



Strategic initiatives

- *Please provide clarification regarding the Department’s chosen route to establishing the Net Zero Lab? Why the Silwood Park campus, and is it not simply too far from SK?*

The Department will collaborate with the Faculty of Natural Sciences to move a plant science greenhouse facility owned by FoNS, the “GroDome”, currently atop the Roderic Hill Building to the Silwood Park Campus, so that the Net Zero Lab could be constructed in its place. OKM has submitted a proposal to the College (through the so-called ‘Gateway Process’ which is used to implement the Academic Strategy), which has the endorsement of the Deans of the Faculties of Engineering and of Natural Science, to elevate this endeavour to the level of a ‘Strategic Project’; this would unlock College support, funding, communications, etc. The proposal clarifies the need to move the GroDome to Silwood Park, which is its natural home; there is no room for this in the already congested South Kensington Campus. The proposal also highlights the need to establish a ‘pipeline’ which links the fundamental work to be carried out in the Net Zero Lab with the White City Campus wherein it can be incubated for Enterprise and commercialisation. This proposal was successful and has been allowed to progress to Gateway Stage 2 (the decision was made at a College meeting chaired by the Provost which took place on 7 December).

OKM has also held meetings with several high net-worth individuals (many of whom are alumni), which have been arranged by Advancement; these meetings have revealed the high level of support for the Net Zero Lab initiative.

- *What is happening regarding the White City Campus?*

The White City Campus has become quite congested. We are engaging with the WCC in terms of our plans for the Net Zero Lab (see above). There are also high-level plans for the construction of a Multidisciplinary Research Hub building in the WCC; this is a 5–10-year horizon project. The Department has provided input in terms of our needs (pilot-scale facilities, vaccines research, etc.). OKM will keep the SAB updated regarding developments.

- *Research on desalination – let's please keep this in mind as it will be of central importance to electrolysis, bio-production, etc.*

The Department welcomes this suggestion and we do indeed have an activity in this area. [REDACTED] [REDACTED] will engage the relevant researchers in the Department and convene a meeting to assess how best to grow this area.

- *Can we have a presentation on space at the April 2023 meeting?*

[REDACTED] and OKM will give a presentation which will cover:

- Current Departmental needs
- Strategy for Silwood Park
- Strategy for White City

AoB

Meeting duration: request to increase the time from one to two hours.

AGENDA

Strategic Advisory Board Meeting Department of Chemical Engineering

Board members



Monday 17th April 2023

Time	Room	Item
12:00–13:00	228	All permanent staff Buffet Lunch with the Strategy Team
13:15–15:30	C617	<p>SAB Meeting with the Strategy Team</p> <ul style="list-style-type: none"> ➤ Brief update on strategy and meeting objectives from SAB Chair [REDACTED] ➤ Introduction to session (OKM/[REDACTED]) ➤ Scene setting (OKM) ➤ High level update (OKM) <ul style="list-style-type: none"> ➤ Summary of progress since last SAB on strategy implementation OKM/[REDACTED] ✓ Quick wins ✓ Medium term plans ✓ Challenges: <ul style="list-style-type: none"> <u>Education</u> <u>Communications</u> <u>Resources</u> <p>Each Theme 5mins presentation/10mins Q&A</p> <ul style="list-style-type: none"> ➤ Enhancing student experience [REDACTED] ➤ Resources and people to win [REDACTED] ➤ Elevating research performance [REDACTED] ➤ Alumni relations [REDACTED] ➤ Update on the work of the Sustainability Committee (OKM)
15:30-15:45	C617	Coffee Break
15:45-16:15	C617	<p>Update on culture and behaviour</p> <p>Equality, Diversity and Culture ([REDACTED] OKM)</p>
16:15-16:45	C617	SAB preliminary reflections and feedback
16:50-17:50	228	Student Experience: Session with students (UG, MSc, PhD)

Time	Room	Item
17:55-19:00	228	Postdoc Experience: Session with Postdocs
19:15 onwards	170 Queens Gate (Solar & Council Room)	Dinner: SAB & All Academic Staff

Tuesday 18th April 2023

Time	Room	Item
09:00-10:00	C617	SAB Meeting: (SAB members only) coffee & pastries
10:00-10:30	C617	Professor Ian Walmsley (Provost) meeting with SAB
10:30-11:15	C617	SAB Feedback Session with the Strategy Team
11:15-11:40	C617	Fundraising discussion (SAB & Strategy Team)
11:40-12:00	C617	Actions & Next Steps (SAB & Strategy Team)
12:15-14:00	C617	Buffet lunch (SAB & Strategy Team)

STRATEGIC ADVISORY BOARD

Department of Chemical Engineering Imperial
College London

Minutes of Strategic Advisory Board Meeting held on
17 & 18 April 2023

Attendance: Board Members: [REDACTED]

Apologies: [REDACTED]

Strategy Team: [REDACTED]

Apologies: [REDACTED]

Distribution: All members of the Strategic Advisory Board & Strategy Team

Documents Attached

- Chemical Engineering presentations
- Agenda and Pre-Read Pack

1.0 Brief update on strategy and meeting objectives from SAB Chair [REDACTED]

2.0 High level update (OKM)

- Increase in % female students in UG & PhD. 2022 ranked 7/32 in NSS. High number of Presidents Awards awarded to ChemEng staff. Overall satisfaction with education & student experience dropped 6 places since 2021. OKM went through recent research awards in the Department; Alumni also recognized.
- Net Zero Lab – new initiative will cost [REDACTED]
- Publications - Since SAB (2014) numbers increased, however recently stable; we need to understand why this is.
- Enterprise day – Monday 15th May [REDACTED] instrumental in setting this up.
- People & Resources to win: UG numbers have been increasing and remained consistent. MSc numbers also remained consistent. Staff – looking forward, 5-10 academics reach retirement age; 2-12 PTOs will also reach retirement age.
- Endowment funds are stable.
- Rankings – QS rankings 2023 7, however unsure what will happen next year.

Education [REDACTED])

- UG: All teaching will be in-person for academic year 23/24; we are also on track to meet the 23/24 target of admissions. We are facing challenges in diversifying the intake and have increased our efforts with SE Asia this summer. A lot of EDI has been incorporated in our teaching. *Challenges*: Discussions have occurred on the implications of ChatGPT and how much coding our students need to know. College have moved towards Module Evaluation Questionnaire (MEQ); SOLE figures are no longer available.
- MSc: [REDACTED] recently joined as MSc Coordinator. Applications are currently down possibly related to fees increasing by 7% but we are recruiting top candidates globally. Currently no feedback from students is available due to SOLE not being actioned. Administratively, we

have streamlined with the UG office, improving feedback given to students.

- PG: Considerable mental health impact of the pandemic and cost of living on our students. The stipend has increased by 10%. There may be another increase again this year which will help toward the cost of living. *Challenges*: diversifying recruitment

Communications Resources presentation

- Coverage has increased since 2021; there is a lot more student-facing communication, e.g., overview video with JH on programme of events, key dates calendar for UG students.
- Alumni have been looped in more this year; [redacted] was invited to give a talk as part of black history month. A profile on [redacted] was highly promoted on social media, as with the recognition of the alumni awards.
- Social media figures are strong; however, we have not yet reached our target.
- [redacted] added that lots of progress has been made. Do we benchmark against college and other departments? [redacted] mentioned that comparisons have not been performed recently.
- Advertising PhD and Postdoc recruitment has increased; we are using this as a way to reach out to the wider community. LinkedIn is also valuable and should be exploited further.

Enhancing student experience

- A number of in-person events have been held for the UG and MSc students including annual dinners and welcome dinners. We have managed an exchange with ETH Zurich/Climeworks and a tour, and both events were sold out. Free (or very low-cost) social activities have also been arranged at full capacity, e.g., climbing, bowling, ice skating, etc. According to the NSS, we are number 7 (out of 32 institutions offering Chemical Engineering) in terms of Overall Student Satisfaction.
- We are interviewing 5 candidates to replace the current Wellbeing Advisor who will leave on 25th April. Students have had to wait a long time (sometimes as long as 3 months) to be assessed by Central Services; our wellbeing officer has stepped in by certifying these disabilities when it should have been done by the Central teams. It is important that this matter is brought to the College's attention.
- Far fewer students experienced anxiety in relation to the Final Year Design this year, possibly due to clearer instructions.
- [redacted] asked if chemengsoc are involved in enterprise activities. [redacted] replied that we currently only have PhD & postdoc-level researchers on the Enterprise Committee, and not UG and MSc students. It was suggested we should offer a Year-in-Industry option to our students. The Department will give due consideration to this suggestion.

Resources and people to win

- [redacted] reported that any new space in the SK will be offered as Learning Space (rather than space made available for research). Some of our researchers are currently based in the Chemistry building in SK and will need to return to ACEX before the end of summer 2024. There is also pressure on us to share our teaching space with other departments.
- We have managed to increase our seating capacity by 10-20% via the following measures:
 - Hot-desking for PhD students on writing-up status
 - Hot-desking for visitors
 - Creating the *Perkins Suite* for flexi- and quiet space
 - Refurbishing for optimal desk size and quality space
- The creation of the Net Zero Lab will add 500 m² of space. We are also using external storage space for rigs and equipment which are not being used. The White City campus is becoming congested rather rapidly.
- [redacted] asked the plans for the Chemistry and Aero space. Old Chemistry building will be transformed to teaching space. Aero building currently occupied by the departments, Business School is growing and have obtained a good share of the Aero space. [redacted] asked what can we learn from losing the Aero space? Maybe we need to be more aggressive in our bid, but its also about fairness and needs of other departments. [redacted] added, we need to consider we already hold a large space. The pilot plant on its own is a huge space spanning over a

number of levels. Space is hurting recruitment and retention especially with new academics. [REDACTED] will bring up the space issue with the Provost.

Elevating research performance (CP)

[REDACTED] reported that over the past 12 months, the Department's focus has been on:

- Building critical mass and flagship programmes: the Net Zero Lab, Healthcare, Multi-scale chemical engineering
- Developing robust (industrial) funding streams: need to diversify our funding sources and increase our levels of industrial funding. To achieve this, we need to engage with new partners, maintain our relationships with current industrial sponsors, and identify Sector Champions amongst the academics (e.g., for Energy, Manufacturing, Healthcare, etc.); [REDACTED] is working closely with [REDACTED] on this. The Net Zero Lab is a major opportunity for us to build and increase our industrial funding. [REDACTED] added that we need to understand what criteria companies use to make investment decisions.
- Supporting the best researchers: we had successful IC Research Fellowship applications recently, and we have started a repository of successful grants to help our researchers with their grant writing.

Alumni relations (MP)

- We are the first department in the College to have an Alumni Relations Officer. The main responsibilities are to cater for activities for our alumni and be the main interface with the alumni cohorts and central College teams.
- We aim to hold reunion events for classes of '73, '93, '94 and have activities/lab tours scheduled during the Great Exhibition Road festival on 17-18 June 2023. Our wish is to create our own database; however, we are restricted by College in contacting Alumni directly, especially due to GDPR issues.
- [REDACTED] asked what our target is. [REDACTED] responded that our target is to increase engagement, create mentoring opportunities, and find routes to increase our endowment.

Update on the work of the Sustainability Committee (OKM)

- A new Departmental Sustainability Committee has been formed and co-led by OKM and [REDACTED]. Faculty have followed the Department's lead and have created their own committee led by [REDACTED], the Dean of the Faculty of Engineering. [REDACTED] (Net Zero Strategist) is our rep on that committee.

3.0 Update on culture and behaviour Equality, Diversity and Culture [REDACTED]/OKM)

- Athena Swan renewal needs to be submitted before 29 July 2023. As part of the renewal, a Departmental culture survey was produced in January. Following the results of the survey, the key improvement areas were identified:
 - Bullying & Harassment
 - Workload, Wellbeing & Mental Health
 - Career Development & Mentorship
 - Gender, Race & Disability Equality

Focus groups were then created to discuss and find solutions to improve matters related to these areas.

4.0 SAB preliminary reflections and feedback

Summary from [REDACTED]:

- A good set of presentations and ambience, good leadership team committed to reaching targets.
- Persistent problems:
 - ranking system needs more inspection and understanding.
 - space issue: heard about problems, but not the demands, requirements and ambitions of the Department. Need to be clear on what we need.
 - Students' Union

- Research funding: need to go further with industrial engagement
- Alumni: great progress, but need to tap into academics around the table
- Endowment

Champions & timelines need to be created for the above problems.

5.0 Postdoc & Student Experience

Overall theme	
Positives: <ul style="list-style-type: none"> • Reputation, Depth, Breadth • Knowledgeable, passionate academics • Supportive environment/ human touch • Excellence in the department • Pilot plant as a real advantage 	Improvement areas: <ul style="list-style-type: none"> • Heavy workload (albeit, can be seen as a positive). • Pastoral care urgent and important. • Facilities – equipment issues, access to equipment, time to get PC etc • Facilities – access to space. • Career prospects – more help. • Better links to companies/ other Labs • Business education • MSC Supervision

MSc Students
Improvement areas: <ul style="list-style-type: none"> • (some) supervisors hard to connect with • Feel less important than UG • Need mentoring from former MSc? Better comms • Too Theoretical? Bring to life. • Selection of 2nd term modules/ changing is hard. Quick fix – video from past students on modules & electives • Feedback on assessments (too optimistic on what's possible?) Rating 85%

Undergraduate Students
Improvement areas: <ul style="list-style-type: none"> • Group projects – usual concerns on who pulls their weight and how assessment is done. • Some timetable clashes – leading to stress • Some equipment not working (analytical lab) • Concern re not enough (any) Business education. • Career development. • The need of a wellbeing advisor esp during exam period.

Postgraduate Students
Improvement areas: <ul style="list-style-type: none"> • Need for more connection to industry – Chem Eng Soc. • Use of PhDs as lab managers and supervisors – • Key equipment access/ availability issues • Accommodation/ cost of living. Rating 73%

Postdoctoral Researchers

Improvement areas:

- Guidance for fellowships/ career prospects. Specific issues on FLF support
- Need for post doc handbook.
- Formal recognition of teaching and supervising.
- Issues on offices – hot noisy, etc 301
- Accommodation very expensive
- Trips to other labs and industry.
- Equipment should be ordered before start date

6.0 SAB Meeting: (SAB members only) OKM & Provost

A meeting took place involving the Provost, the SAB, and OKM.

7.0 Feedback Session with the Strategy Team

- Lots of progress has been made since the last SAB meeting; there is a lot more collaboration. Achievements in the area of communications and alumni is a step forward. Positive progress also in terms of research, teaching, and the Chem Eng Society.
- The areas for further Development include:
 - Space: The Department must create a coherent business case for space with a clear 'ask' that can be presented to College.
 - Industrial engagement: this requires a champion, possibly a new post. OKM mentioned the role can easily be justified.
 - Engagement: The Department has improved considerably since the creation of the SAB, and the Departmental Strategy Team responds to feedback well. IS congratulated the team and added that conversations with the students suggest that they feel that the Department is firmly on their side.
 - Rankings: To get to number 7, a number of targets need to be met; there are lots of new universities in the top 10. OKM showed ranking figures (CE rankings unpacked) CE = 89.9% (7) MIT = 97.8% (1). We need to understand what is behind the figures. We also need to understand what questions QS are asking in order to improve our numbers. ■ added that Employer Reputation is key.

8.0 Fundraising discussion (SAB & Strategy Team)

- OKM is championing fundraising and working with the advancement team; we have received a good number of scholarships which are sourced directly by OKM and advancement team. Our aim is to receive funding for the NZL.
- ■ asked why our endowment level has been static for the past two years. College is in control of investments, and we are not privy to how these are carried out. We have been drawing out of the endowment to fund scholarships. ■ suggested we approach College directly and be pro-active. **ACTION**: OKM to speak with other Heads of Departments and filter any feedback to the Dean.
- ■ we need to be creative in finding ways to increase fundraising. ■ said communication needs to be improved to increase endowment to fund the NZL. ■ added that partnerships with other organizations are worth exploiting since we have a very attractive "brand". We should tap into international research programmes that provide funding, e.g., <https://www.nsf.gov/od/oise/IntlCollaborations/UK.jsp>, and a US-UK energy partnership <https://www.gov.uk/government/news/uk-and-us-announce-new-energy-partnership>

9.0 Actions & Next Steps (SAB & Strategy Team)

- Student rankings need to be improved
- To solve the space issue, we need a champion
- A champion is also required to support Industrial funding/engagement
- Good progress on the alumni front, but this needs to accelerate
- Re-introduce Business School electives following the cuts made as part of the Curriculum Review

█ handed over chairmanship of the SAB to █. He thanked the committee and strategy champions for their support. █ offered his thanks in creating the SAB Committee. OKM thanked █ for his services to the Department and the SAB █ and presented him with a token of the Department's appreciation.