

**BMW GROUP + QUT
DESIGN ACADEMY**

NOVEMBER 2021

Welcome
Program Updates
Feature Article
Briefings
Academy Achievements
BMW Group Partner Update

NEWSLETTER

**BMW
GROUP**



WELCOME



As we close out the year I would like to reflect on what has been a mammoth 2021. We are thankful that the collaboration between BMW Group and QUT grew substantially and this success is a testament to the depth of the relationship that has formed between us propelling us into an exciting year ahead.

Support from BMW Group has increased significantly this year, and so did our team. In addition to our superstar Design Associate, Jordan Domjahn, we hired Tim Lim and Epi Pereira as Junior Design Associates as well as James Dwyer as Research Associate. Our Internship Program grew in scale and breadth with 14 students working at the Academy. Our Research Program expanded with James Dwyer being announced as our lead Research Associate while completing his Masters in human-robot interaction for manufacturing and logistics contexts. Our Special Projects Program continues to grow in strength with some major real-world projects in the works with our colleagues in BMW Group.

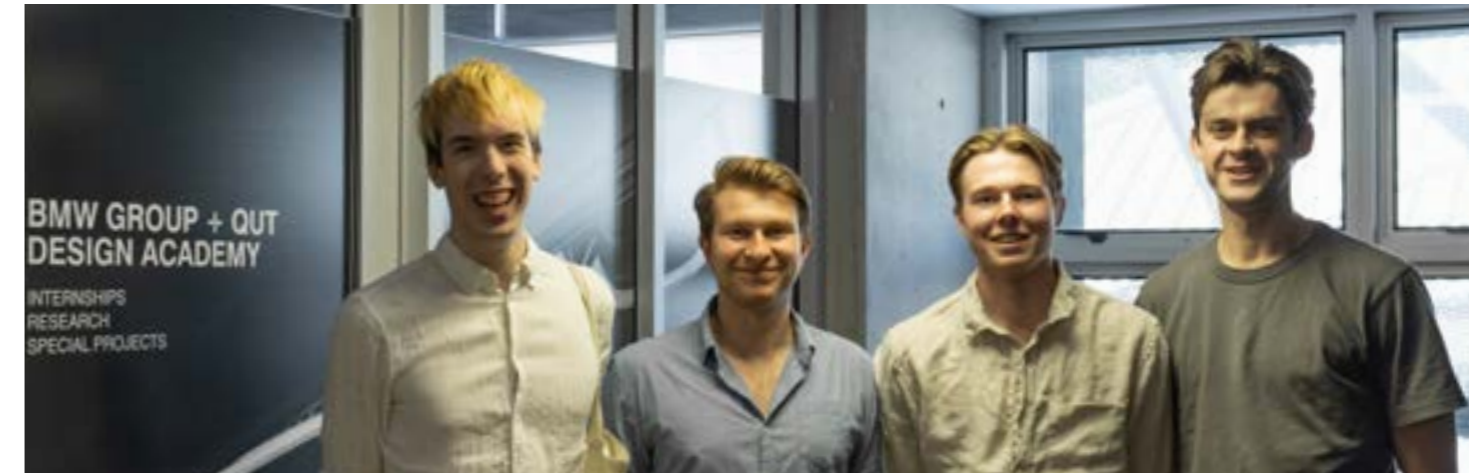
Beyond this, we've had other wonderful achievements this year including the launch of our BMW Group + QUT Design Academy 2020 Photobook, celebration of our previous and current interns and Design Associates winning prestigious design awards and the formal collaboration with BMW Group at Hams Hall (in the UK) to employ a design intern from Loughborough University. We also have an exciting new initiative with BMW Group and although we still cannot share details of this, we can certainly confirm that it will be by far our most exciting initiative yet, and will form the foundation for new projects for many years to come. We look forward to 2022 with great anticipation. We will announce exciting new initiatives, launch our 2021 Photobook and a new revamped website, and reveal new premises for the Academy as our footprint grows and expands at QUT!

We wish to thank all of our interns and colleagues who have supported us in 2021. Thank you to our Academy Associates and colleagues from BMW Group, especially our friends Jimmy Nassif and Dylan Sheppard. We wish you all a happy holiday season and a safe and joyous new year!



Dr Rafael Gomez
Founder & Academy Lead

PROGRAMS



INTERNSHIPS

The Internship program focuses on Fostering Design Excellence. It offers high-performing QUT design students an opportunity to advance their learning through real-world projects, and provides a pathway for paid internship placements at BMW Group in Munich, Germany.

Semester 2 Academy Interns Finish

We are very proud to say that our latest group of Academy interns have just completed their internships with us. Oliver Young, Søren Waldmann, Jordan McNally and Josh Tulleners have all produced some exceptional work for their various projects, with all of them presenting their final designs to BMW Group staff this month. In addition to the images on the following pages, check out our Instagram for more renders and animations from their projects.

We have now had a total of 12 Interns through the Academy WIL Internship program. Next year we will continue to increase this number, with some more unique projects on offer for QUT Design students.

Completion of Industrial Design Capstone Unit Project

In addition to our Interns, Isaac Bonora has completed his Industrial Design Capstone Unit this month in collaboration with the Academy. He developed a project focused on the idealworks iw.hub autonomous robot. Check out our feature article written by Isaac in this edition of the newsletter to learn more about his capstone project this semester.

Oliver Young

iw.lense: a set of Augmented Reality glasses for BMW factory workers and forklift drivers to wear, which reduces iw.hub movement confusion and improves task efficiency for assembly line workers.



Soren Waldmann

ideal.vision: laser lights to communicate movement intent and operating boundaries for the iw.hub robot, to reduce traffic incidents and improve efficiency and collaboration for factory workers and autonomous robots.



Jordan McNally and Josh Tulleners

This semester Jordan and Josh completed a live project for some of our BMW Group colleagues, combining their skills to create a UI/UX design. The design was developed from an existing concept created by BMW Group. We are told that parts of their project have potential to be implemented by BMW Group in future updates or releases!



RESEARCH

The Research program centers on Exploring Knowledge Horizons. We have initiated a progressive research agenda for PhD and MPhil students to conduct world-class research through the Academy.

Deployment of First Study

This month James Dwyer deployed his first study for his Masters research. His survey is available through LinkedIn and is directed at people who have experience working alongside autonomous mobile robots in logistics. James is now looking towards developing a Virtual Reality prototype study as part of his research.

SPECIAL PROJECTS

The Special Projects program pioneers world-first projects by Advancing Cutting-Edge Technologies. It is tailored for professional design graduates to work on advanced R+D projects for real-world applications. These projects are established by BMW Group in Munich and are supported by the Special Projects team at the academy.

Exciting Times Ahead

Although the end of the year is fast approaching, we are still active across BMW Group projects that will carry over into the new year. Over the past month our Design Associates have shifted their efforts to focus primarily on some 3D visualisation plus Virtual Reality and Augmented Reality interactions. We are incredibly excited to share these with you (as part of a larger announcement), but we'll have to wait until next year for that!

FEATURE



MY INDUSTRIAL DESIGN CAPSTONE PROJECT

Isaac Bonora
3rd Year Industrial Design Student

My capstone project began with a design brief from the Academy; to look closely at the existing user interfaces and interactions found around the iw.hub by idealworks, then design a new interface that would help solve any potential design problems between hum factory workers and the iw.hub robot. Sounds simple, right? Designing specifically for an autonomous mobile robot in a foreign warehouse halfway across the globe. I was also naive to the complexities that arise just by simply being in a space with an autonomous mobile robot let alone working with one.

After introductions with colleagues in Germany at idealworks and previous alumni of the BMW Group Internship program, the project quickly took off. The first of two rounds of interviews revealed the intricacies of the task at hand. Discussions with James Dwyer, a Research Associate at the Academy, gave guidance from his found understanding of the topic in a broader sense and became a valuable point of contact throughout my project, and a guiding light in the world of human robot interactions.

The key issues identified after interviews directly correlated with current industry research in (this area). The identified areas of tension between the blue-collar warehouse worker and the autonomous mobile robots are tech illiteracy, error handling and expectations. As the primary users of the robots the workers experienced frustration and distrust when the device misbehaves or fails in the field creating a dysfunctional relationship. The concepts and the final intervention were developed around these found themes. Implementing simple lighting signifiers to the robot to better communicate to workers what the iw.hub was understanding about the

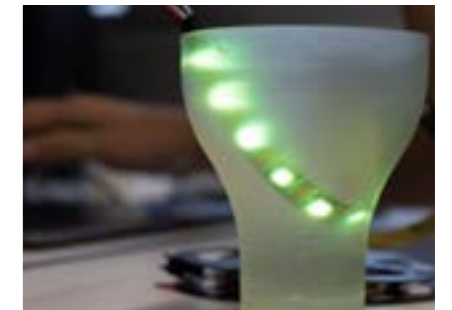
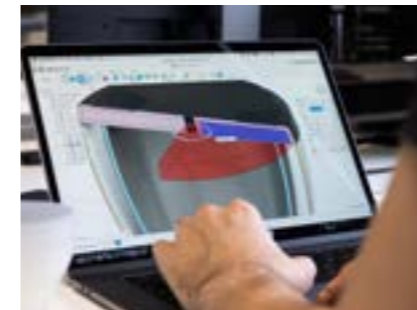
world. Enabling users to quickly troubleshoot and solve failures the device encounters. The seemingly simple communication strategy allows the worker and the robot to work synonymously.

The BMW Group + QUT Design Academy afforded the resources and support I needed to complete the project to the standard presented here. While I couldn't interact directly with an iw.hub during the project's timeline, having access to digital assets provided by the Academy and Idealworks allowed me to develop and refine solutions remotely. Key takeaways from this experience showed me how important the digital toolbox is to an Industrial Designer. Opportunities to work with augmented reality technologies to prototype ideas, supplied the information needed for many of the improvements I made to the final intervention.

While my time at the Academy spanned only just one semester, access to a project of this scale and complexity challenged my ability as a designer, encouraging me to rise to the challenge. Allowing me to gain an insight into the future of manufacturing and how to design lasting solutions. For this, I believe my designs are better refined and resolved when providing solutions to complex tensions faced across industry today.

Until next time,
Isaac

You can see Isaac's work at isbonora.com



BRIEFINGS



ACHIEVEMENTS

- Completion of Semester 2 Academy Internship program
- Isaac Bonora finished and presented his Industrial Design Capstone Unit project
- James Dwyer deploys his first study as part of his Master's research