Ollscoil Teicneolaíochta an Atlantaigh

Atlantic Technological University

ATU Digital Transformation Specialist Projects

A collection of impact case stories from N-TUTORR 2024

Transforming Learning

N→TU TORR

Funded by the European Union NextGenerationEU

About this booklet

Booklet title: ATU Digital Transformation Specialist Projects: A collection of impact case stories from N-TUTORR Stream 3 2024

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This booklet is an output from Stream 3 of the National Technological University TransfOrmation for Recovery and Resilience (N-TUTORR) project. N-TUTORR is an innovative collaboration across the technological higher education sector in Ireland. It aims to transform learning, teaching and assessment by focusing on transforming the student experience and developing the capabilities of all staff, to address a sustainable pedagogical and learning environment, informed by the UN Sustainable Development Goals. The N-TUTORR programme is funded by the European Union and Next Generation EU, as part of the National Recovery and Resilience Plan (NRRP) and is coordinated by the Higher Education Authority (HEA) and the Technological Higher Education Association (THEA).

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Table of Contents

Introduction

Ireland's technological sector, made up of new technological universities and institutes of technology, formed a partnership to develop and deliver on the National Technological University Transformation for Recovery and Resilience (NTUTORR) programme 2021-2024. This programme is EU funded (value 40 million euro with 6.9m awarded to ATU) and overseen by the HEA. The N-TUTORR programme is designed to transform learning, teaching and assessment by focusing on transforming the student experience and developing the capabilities of staff to address a sustainable pedagogical and learning environment with particular and critical focus on digital transformation, the Sustainable Development Goals (SDGs) and Equality, Diversity and Inclusion (EDI).

The national programme of work is designed to enable and leverage digital transformations to achieve sustainable and long-lasting change in the higher education student experience. This booklet of case studies presents a selection of ATU digital transformation projects funded under work stream 3 of the N-TUTORR programme. This collection provides an opportunity, for all involved across ATU, to celebrate all that has been achieved. The range of projects presented throughout this impact case booklet will help inform future practice and act as an inspiration for staff and students. These case studies clearly demonstrate the significant impact that can be achieved through partnership and collaboration across ATU campuses and the N-TUTORR network.

Congratulations to all the team in ATU including Pat Heffernan, Donal McGinty, John Gannon, Liam McIntyre, Kieran Kennedy, Markus Korbel, Liam Young, Mark Porter, Noelle Higgins, Domenico Carbone, Chris McLoughlin, Ivan Marcos, Joanne Harmon and research assistant Olya Antropova in preparing the case material.

Enjoy the collection of impact case studies and I hope you will find many ideas in digital transformation and innovation for student success.

Go raibh míle maith agat

Dr Carina Ginty

Dr Carina Ginty
ATU Institutional Lead N-TUTORR

Digital Transformation in Teaching and Learning

Ollscoil Teicneolaíochta an Atlantaigh

Atlantic Technological University

Impact Case Stories

Learning Ecosystem Project (VLE)

Atlantic Technological University

Team members: Dr Mark Porter, Dr Noelle Higgins, Emma McDonald, Jamie Kelly, Dr Kevin Cunningham, Barron Cawley, Philip Walker

Project Description

Aim: The Virtual Learning Environment (VLE) Integration Project aims to align ATUs 3 VLEs to aid the progression to one ATU using a user-centered approach.

Background

VLE landscape in Ireland (since 2019)

- 8 Universities have conducted/are conducting a VLE review -> 4 Universities changed VLE platform / 1 stayed / 3 reviews are ongoing.
- Shift away from the traditional VLE providers (Blackboard & Moodle) to Canvas & Brightspace.
- Some universities employed a more holistic approach focusing on learning ecosystem as a whole with the pedagogical practices.
- Historically the majority of users have not been included in the projects around their learning ecosystem, however they are the people who will be using it everyday and it is an essential support for their work.

Our approach to VLE review:

- We have taken a user-centred approach to engage with stakeholders from the beginning, which has been very beneficial in identifying many key requirements.
- This was done to ensure inclusive practice and equity of experience across all campuses for both staff and students.

Outputs & Outcomes

Callouts from Academic Focus Groups:

- The VLE should be a central hub / "one-stop shop" for students.
- Important VLE themes: collaboration, communication, assessments, resource sharing, scheduling tools and enhancing educational processes.
- The possibility for further cross functional collaboration because academics were intrigued by the different approaches and techniques that they were all using and the potential it had for themselves.
- Project review report for: Full ecosystem ongoing including user needs, ATU requirements, Instructional Methods and Pedagogy review, Learning Technologies review, Assessment of Learning Analytics.

Actionable Strategies

Encountered challenges:

- **Change of the project scope from VLE project to Learning Ecosystem project:** Through external research it was identified that many learning systems exist and pedagogies are working in conjunction to achieve a cohesive learning experience.
- **Increasing project scale:** Internal research identified numerus legacy systems which needed to be reviewed and potentially realigned.
- **Difficulties in gathering usage data:** Multiple information gatekeepers; Many information streams due to third party and legacy systems; Varying practices around ATUs Data required alignment.
- **Delays in resourcing**: Internal resourcing requests are ongoing.
- **Staff and student engagement difficulties**: Survey and engagement fatigue for staff due to the number of surveys and projects. To try to address this we are using multiple approaches; trying to foster a strong community and sense of belonging, and enhancing project communication strategy and transparency.

What lessons would you share with others?

1. Ensure university project alignment and oversight to reduce the risk of the duplication of work.
2. Cross function and cross campus collaboration is essential.
3. Post implementation planning is key.

Key Impact Insights

Projected numbers

27000 students

2500 staff

Benefits:

Students:

- Enhanced collaboration within the university
- Enhanced engagement

Staff:

- Enhanced collaboration within the university
- Enhanced engagement
- Enhanced Teamwork

What was the most meaningful benefit?

> Users having the opportunity to have an input and contribute their knowledge and experiences to the direction of the project from the beginning has been very positive and has highlighted further opportunities for cross functional collaboration improvements within ATU.

Evidence of impact

- Focus groups
- Discussion meetings
- Anecdotal evidence (i.e. talking informally with others)
- Interviews

How will you sustain impact over the next 1-3 years?

> Further opportunities for stakeholder engagement will be available via surveys, user testing during the procurement process, training development and roll out.

Digital Campus - Hybrid Classrooms

Atlantic Technological University

Team members: Pat Heffernan and Sharon Mortimer (N-TUTORR) with the support of the AV Team Galway, Network team Galway, Building & Estates Dept Galway, Corinna Gavin Procurement ATU, Purchasing Dept Galway, AV Team Sligo, Network team Sligo, Building & Estates Dept Sligo, AV Team Sligo, Network team Sligo, Building & Estates Dept Sligo, AV team Letterkenny, Networks team Letterkenny, Building & Estates Dept Letterkenny, Adrian Britton, Tommy Docherty, Daniel McGlashin Killybegs, Colin Weir and Kevin Higgins Castlebar, Damien Kearns St Angela's College

Project Description

Installation of hybrid rooms project was focused on upgrading the audio visual equipment in classroom and adding technologies to allow hybrid classroom delivery with the aim to have at least one hybrid classroom at each ATU site.

Project goals

- Installation of hybrid classrooms that are:
  - simple to use, reliable, software agnostic.
  - behave as a normal classroom and seamlessly switch to hybrid mode when required.
- Upgrade all AV in the selected rooms, provide an excellent online experience, ease of recording, improve reliability, ease of maintenance while taking into account data protection.

Outputs & Outcomes

18 rooms across ATU are being upgraded to hybrid rooms:

- **Letterkenny:** L1101, L1102, Killybegs
- **Galway Dublin Rd:** 165, 1041, 973 (library); Letterfrack: Oak room; Moutbellow: Lecture Hall 1, CCAM, Castlebar Y100
- **Sligo:** Aurivo, B1082, B1086, B1201, B1202
- **Additional projects:** Theatre 1000, Willow Room (Letterfrack), Green Room (St Angelas)

973 (Library, ATU Galway)

L1101 (ATU Letterkenny)

Actionable Strategies

Encountered Challenges

- It took time to get familiarized with new technologies and new interphase design.
- It was required to collaborate with teams and colleagues across different departments for the first time.
- Considering the spread of nine ATU locations it was necessary to provide a detailed specification.

Plans to sustain impact over next 1-3 years

- **Training** - a plan to be developed and resourced to encourage staff try and use these technologies in the most suitable way.
- **Support** - resources to be allocated to maintain and develop these technologies.

What lessons would you share with others?

1. Research first.
2. Have a clear vision and plan.
3. Communicate to all involved.
4. Appreciate that distance may slow down the progress.

> *"This project has been a challenge but it has been one I have believed it in. It was opportunity to do so much and make a real impact to students and staff"*

Key Impact Insights

Benefits:

Students:

- Enhanced collaboration within the university
- Enhanced collaboration beyond the university
- Enhanced engagement
- Increased sense of belonging to university/discipline/community
- Material gains e.g., co-author of publications, development of new materials etc.
- Enhanced Active listening

Staff:

- Enhanced collaboration within the university
- Enhanced collaboration beyond the university
- Creation of reusable teaching objects
- Material gains e.g., co-author of publications, development of new materials etc.
- Enhanced engagement
- Increased sense of belonging to university/discipline/community
- Enhanced Communication skills

What was the most meaningful benefit?

> "The key one is flexibility. For the staff, they can decide to use this technology or not. They can decide how to use it - for recording or for online classes or to allow an external guest or expert to speak to a class. The four walls of the classroom are no longer a barrier. Staff can decide what software to use with the technology as it is software agnostic. It allows staff develop courses to suit those up skilling in the work force by giving the choice to be on site or online. For students the benefits are increased student engagement and improved learning performance, flexibility may be offered and higher quality content for revision is possible."

Digital Campus - Meeting Rooms

Atlantic Technological University

Team members: Pat Heffernan and Sharon Mortimer (N-TUTORR) with the support of the AV Team Galway, Network team Galway, Building & Estates Dept Galway, Corinna Gavin Procurement ATU, Purchasing Dept Galway, AV Team Sligo, Network team Sligo, Building & Estates Dept Sligo, AV Team Sligo, Network team Sligo, Building & Estates Dept Sligo, AV team Letterkenny, Networks team Letterkenny, Building & Estates Dept Letterkenny, Adrian Britton, Tommy Docherty, Daniel McGlashin Killybegs, Colin Weir and Kevin Higgins Castlebar, Damien Kearns St Angela's College

Project Description

Installation of new video conferencing equipment in ATU meeting rooms with the aim of improving communications and user experience in the room and online.

Project goals

- Improve audio quality, video quality, ease of use, reliability.
- Improve room environment – acoustics, furniture, access to power etc.
- Improve device management and security.
- To consolidate under one device management portal. All meeting rooms use Microsoft Teams with the option to connect a laptop for BYOD.

Outputs & Outcomes

19 meeting rooms across ATU are being upgraded.

- **Letterkenny:** Engineering meeting room - 2221, Nursing/Science meeting room - 2463, Business Studies meeting room - 1154, Management suite - DH203,
- **Galway:** Meeting Room 1 - G1053, Meeting Room 2 - G1054, Mayo Boardroom - P106, Marine Boardroom – 201A, IT studio - G0927
- **Sligo:** Main Boardroom -2007, Finance Room – A2022, Video Conference Room - B1310, Science Room - B2214, BIC Boardroom – G1031, BIC Meeting Room – G1033
- **Additional projects:** Castlebar Library seminar room, Sligo Library seminar room, Letterkenny Library meeting room, Letterkenny Boardroom

Meeting Room 2 - 1053 (ATU Galway)

Marine Boardroom – 201a (ATU Galway)

Science Room - B2214 (ATU Sligo)

IT Project Room - 929 (ATU Galway)

Actionable Strategies (refer to page 6)

Key Impact Insights

Benefits

Students:

- Enhanced collaboration within the university
- Enhanced collaboration beyond the university
- Enhanced engagement
- Increased sense of belonging to university/discipline/community
- Material gains e.g., co-author of publications, development of new materials etc.
- Enhanced Active listening

Staff:

- Enhanced collaboration within the university
- Enhanced collaboration beyond the university
- Creation of reusable teaching objects
- Material gains e.g., co-author of publications, development of new materials etc.
- Enhanced engagement
- Increased sense of belonging to university/discipline/community
- Enhanced Communication skills

What was the most meaningful benefit?

> Improved communications. The meeting room is still an important facility in any college or business. It should be as capable a users computer and offer a positive space for face-to-face and online meetings. By improving and standardizing equipment and interface, the rooms should be easier to use and will hopefully encourage users to use them more.

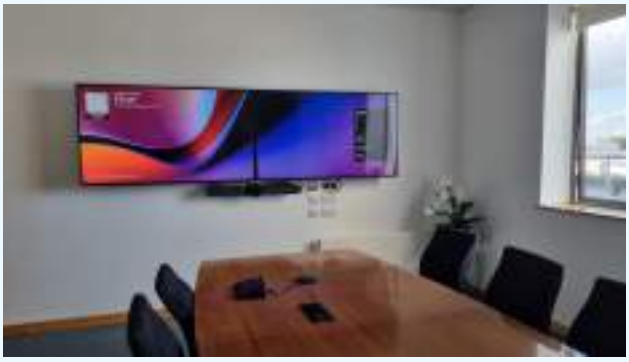
Digital Campus - Hybrid Classrooms and Meeting Rooms - Photo Gallery

Atlantic Technological University

Green Room (ATU Galway)

Theatre 1000 (ATU Galway)

Lecture Hall 1 (ATU Letterfrack)



Meeting Room 1 - 1054 (ATU Galway)

Science Meeting Room - B2224 (ATU Sligo)

Sligo VC suite - B1320 (ATU Sligo)

Room 1041 (ATU Galway Dublin Rd)

Room 165 (ATU Galway Dublin Rd)

Expand Use of CRM Across ATU: Tackling Recruit-Retain-Engage Processes to Enhance the Learner Experience

Atlantic Technological University

Team members: Liam Young, Fiona Walsh

Project Description

This initiative aimed to align application processes across ATU by delivering multiple manageable, linked projects: (1) Technical work to migrate the Sligo solution to become a Customer Relationship Management (CRM) platform available to the whole ATU; (2) Several projects to align and improve the prioritised learner engagement processes.

Background

- Prior to ATU formation, IT Sligo had a Dynamics 365 platform in place, with a few solutions implemented, including applications processing of all non-CAO applications.
- We wanted to align application processes across the ATU.
- We also want to prioritise other learner engagement processes where use of the CRM can enhance processes under the headings Recruit-Retain-Engage.
- N-TUTORR funding allowed for a programme of work to to be planned and executed.

Outputs & Outcomes

- Migration of the recruit application from IT Sligo to ATU, including establishment of ATU environments and deployment, processes, rebuild integrations on ATU tenancy (web forms, SharePoint, Azure components, Global Payments, Springboard platform), actual migration of Recruitment solution and appropriate data.
- Initial alignment of non-CAO application processes across ATU, implementation of first new process, integration of RPL solution, all to provide consistent view to applicant.

Actionable Strategies

Encountered Challenges

- Challenge in aligning with business processes even when we were just one Institute of Technology. It can become even more challenging as three Institutes merge into one ATU.
- Cross-functional working groups with strong chair/facilitator are essential. Focus on processes from customer (applicant/student) POV. Most people have to go back to day jobs between sessions thus it is essential to have some dedicated resources who can keep up momentum and progress.

Plans to sustain impact over next 1-3 years

- We can continuously improve the processes, with changes we make in-house, plus changes where we need to engage our CRM Services partner.
- We have a Framework in place with a partner until 2029 which means we can move quickly when parts of the ATU have funds to develop processes, or when large initiatives like N-TUTORR can fund ATU-wide improvements.

What lessons would you share with others?

Focus on processes from customer (applicant/student) point of view.

Key Impact Insights

Numbers reached

September 2024 >7000 applicants; >50% became students
October 2024 180 registered users (expected to grow)

Benefits

Students:
- Enhanced collaboration within the university
- Enhanced collaboration beyond the university

Staff:
- Enhanced collaboration within the university
- Enhanced collaboration beyond the university

What was the most meaningful benefit?

> Gained confidence and learnings in the use of own CRM platform to improve the recruitment experience of learners, and other learner-related processes.
> This gives us complete ownership of our own solution, plus ownership and access to data to inform decision-making. This is not just in the area of recruitment, but for any processes we decide are suitable for CRM to play a role in. This avoids the need to spend on expensive bespoke CRM solutions for different processes.

My ATUApp: The Creation of an App Prototype Proof of Concept to Support the Student Experience

Atlantic Technological University

Team members: Kieran Kennedy, Paul Russell, Markus Korbel, Donal McGinty

Project Description

The creation of a proof of design concept mobile app - that will provide a single interface for the University to interact with students and for students to engage with the multiple student support services already established.

Potential App Features

- Digital Student ID.
- Student timetable allowing synchronisation with email calendars
- Student attendance.
- Print release features.
- Interfacing with IT support services
- Push notifications (Cancelled classes, weather alerts/closures, Assignment due dates etc).
- Maths learning & support centre.
- Library resource availability and booking.
- Computer lab availability and software suites.
- Campus maps and room locator (Ala Google maps - directions).
- Realtime transport information.
- Staff directory.
- Enrolment status and fee management.
- Digital consent.

Outputs & Outcomes

- A prototype portal has been created which is mobile adaptive, displaying Student registration status, access to email, calendar, OneDrive files, Digital ID card.
- A substantial output has been the development of a single web interface for timetabling services for the entire ATU which is now compatible with presentation within the portal/app.

Encountered Challenges

- As the university is merging, not all systems or internal processes are aligned enough to build a single interface into them.
- Work with information system owners to align data structures. This was achieved within the timetable office, and banner SRS system.
- The lack of timetable change notifications was a significant issue identified during student focus groups. The suitability of information services have been assessed and services prioritised in order to make compatible with the app development.

What lessons would you share with others?

Ensure systems have an feature rich Application Programming Interface (API).

Key Insights

Projected numbers

25000 students

3000 staff

Benefits to Students

- Enhanced engagement
- Improved University to student communication

Benefits to Staff

- Enhanced engagement

What was the most meaningful benefit?

> Creation of a timetable web interface, presenting realtime updates to students from 3 separate timetable services, synchronized to the students personal calendar.

Plans to sustain impact over the next 1-3 years

- Timetable interface will be sustained and supported through core activities.
- Further development of the portal/app may be undertaken if additional supports can be sourced to fund its development.

Media Production CCAM

Atlantic Technological University

Team members: Ivan Marcos

Project Description

This project involved the procurement and installation of an LED wall and associated controller, hardware and software, in a multi-purpose space.

Background

- The Church space at ATU Galway City (Wellpark) will be transformed into a versatile venue for conferences, workshops, lectures, media production, film screenings, performances, and more. Equipped with retractable tiered seating and advanced technology - including cameras, sound systems, motion tracking, and hybrid delivery capabilities - it serves as a vital part of ATU's digital campus initiative.
- As a Media Production Hub, this new resource will facilitate the creation of reusable media-rich digital learning content as well as providing immersive technologies and virtual production capacity to meet the needs of learners.
- This integration fosters skills across media production, education, and XR (VR/AR/MR) for applications in immersive learning, virtual labs, and creative industries like film, animation, and game design. It enhances the student experience in a multi-campus setting and prepares students with industry-ready skills in advanced content production.

Outputs & Outcomes

- New technology funded by N-TUTORR and installed in September 2024:
  - LED wall
  - Controller hardware and software
- Technology previously in place:
  - Cameras
  - Basic motion tracking tech (Advance Motion tracking system to be purchased and integrated in future)
  - Pre-production hardware & software
  - Post-production hardware and software
  - Workflow management hardware and software
- Multi-purpose space design
  - Space configuration was completed during summer 2023

Benefits for ATU

Enhanced Media Production Suite:

- Production of high-quality content for educational purposes across a range of programmes.
- Opportunity to increase development of immersive educational content, involving 3D environments, and XR(VR/AR/MR) engagement by learners.
- Studio location for staff training and development in advanced media production techniques.
- Studio location for student learning, practical, workshops, research projects.
- Studio location for collaborative research projects with external partners and stakeholders.

Enhanced Conference/ Event technology:

- Integration with hybrid delivery technologies to provide an enhanced experience for online/remote participants.
- Opportunity to host conferences, seminars, workshops, lectures, film screenings, theatrical performance, concerts and other events requiring very large format high quality screen display.
- Opportunity to host group meetings with multiple online participants requiring large format high quality screen display.

Implementation

The configuration of the space, enabling works, minor construction works and finishes, and installation of retractable seating was completed in 2023.
The installation of the LED wall, controller and cabling works was scheduled based on the procurement schedule and was completed in September 2024.

Key Insights

Projected numbers

600+ students

50+ staff

- Up to 50 staff (full-time and pro-rata) on the Galway City (Wellpark) campus will regularly use the facility.
- Staff from other locations will use the facility on a less regular basis.
- Up to 600 students on the ATU. Galway City (Wellpark) campus will regularly use the facility.
- Students from other locations will use the facility on a less regular basis.

Benefits for sector

- Capacity and resilience for future emergencies, providing the sector with options for continuity and performance.
- New shared digital tools and technologies, services and solutions.
- Development of a national expertise in a range of hybrid and on-campus digital enhancement approaches.
- Media production hub available to other TU staff.
- Sustainability improvement by reducing the amount of student and staff travel.

Dissemination

The learning can be shared across the sector as follows

- A series of seminars and information sessions.
- Staff training sessions.
- Collaboration and training.
- Collaboration in joint research projects.
- Participation in training sessions.
- Participation in joint events.

Media Production CCAM - Photo Gallery

Atlantic Technological University

Video wall in Church space (ATU Galway City Wellpark)

Church space (ATU Galway City Wellpark)

Video wall in Church space (ATU Galway City Wellpark)

ATU Chatbot

Atlantic Technological University

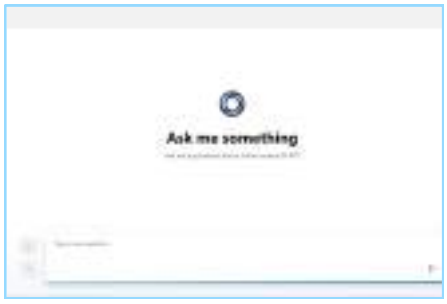
Team members: Kieran Kennedy, Markus Korbel, Donal McGinty, Joanne Harmon, Jessica Duffy

Project Description

The project aimed to develop a pilot Chatbot in one of the campuses in ATU (Sligo) that can provide information to students in relation to exams with intention of exploring how the Chatbot can be used in IT and other support services across all campuses in ATU.

Background

- Initial idea for the N-TUTORR Chatbot originated from the Q&A Chatbot that was developed in early 2021.
- In the middle of pandemic IT services were receiving substantial number of requests from students.
- To reduce workload, IT needed to find an easier way to deal with the requests. IT put together a simple Chatbot using Azure1 that was available.
- A list of Q&A was developed and fed into the Chatbot. This worked well but was quite limited. IT was required to regularly maintain the list of Q&A.



ATU Chatbot interface

Outputs & Outcomes

Chatbot exams testing Version 1.0

Outcome:

- This version wasn't tuned well. In cases where the Chatbot could not answer questions correctly it would istead provide witty statements in an unprofessional manner or offered humorous responses.
- Version 1.0 was not ready for launch.
- The pilot provided essential knowledge on capabilities of a Chatbot.

Chatbot copilot studio Version 2.0

Outcome:

- This version was pulled quickly as it was not working well: the Chatbot gave answers to questions to which it should not have access.

Chatbot Version 3.0

- A separate Azure subscription was used to access advanced functions.
- Using the latest AI technology, the Chatbot could read the Q&A that were fed in and using NLP it could interpret questions and provide answers efficiently.

Learn more about Chatbots in Higher Education:

Encountered Challenges

- It was challenging to find a right model and locate available configurations. The latest AI version was not available in Ireland. It took time to locate the latest version within the EU considering data protection regulation. The latest version was available in Sweden.

- Two centres were deployed for running of the Chatbot Version 3.0: a data centre in Dublin and a data centre in Sweden. Data protection sync is easier if data does not live the country, thus agreements with the Swedish team had to be drawn to ensure data regulation and control.

Key Insights

Projected numbers

10000 students

Learnings

Using the latest model of AI the Chatbot Version 3.0 can paraphrase the material, so the data does not need to be structured to the same extent as in previous versions.

Using **separate Azure subscription** allows for data control and ensures data protection.

Accessing the **history of questions** may be useful to assess the type of questions being asked and/or type of question are not being answered to identify blind spots and areas for improvement.

Microsoft AI regularly issue updates and makes changes to the platform; thus, it would be essential to **regularly tweak the model**, review the permissions and settings to keep up to date with the changes.

To ensure information is in date **Sharepoint must be updated** if changes are being made.

Two centres involved in the running of the Chatbot that are located in different countries (Dublin and Sweden) can communicate with each other effectively and efficiently as they use the **same cloud platform, and the same subscription**.

CRM platform

My ATUApp

Chatbot

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Hybrid Rooms

Virtual learning environment

Media Production

Digital Transformation in Teaching and Learning

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