University *of* **Leicester**

ATX
TECHNOLOGIES

Let's **Talk**

Business Collaborators · Innovators · Partners

A Case Study:
ATX Technologies working with the
University of Leicester

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The Company

The long-standing successful partnership between Lisbon-based ATX Software and the University of Leicester was the key motivator for the company opening a UK office – ATX Technologies – and locating it within the University campus. ATX specialises in providing innovative solutions and world-class services for companies and organisations wishing to modernise their software applications and improve their software infrastructure.

The company's success is based on developing cutting-edge software engineering tools while developing strong partnerships with the scientific and research community. Key to that success, and to the company's mission in the UK, has been the ongoing collaboration with the University of Leicester, which started in 2002.

Resolving the need

ATX started to work with the University's Department of Computer Science on a successful bid to the European Union Marie Curie Transfer of Knowledge Industry-Academia Partnership – whereby funds were awarded to create a lasting collaboration between the academic world and small and medium-sized companies across EU borders. In the case of ATX and the University it was the start of a win-win partnership.

- Two ATX staff were seconded to carry out 2 years each of research at Leicester with access to a world-class scientific, technology and research resource which perfectly complemented its own capabilities in software engineering.

- In exchange, the University sent academic staff to the ATX HQ in Lisbon to train company personnel while gaining experience of work on commercial projects in a business environment. University staff also provided continuing professional development courses to selected ATX clients.

A growing collaboration

This successful early alliance of ATX and the University of Leicester became the stepping-stone to an ongoing partnership which is thriving today and where the skills of software engineers and academics each complement and add value to the other. The success of the collaboration resulted in the following:

- ATX based its UK technical team within the University's Computer Science Department because of the opportunity it afforded to work alongside world-class software researchers

- ATX and the University regularly compile joint bids for research funding and contracts and collaborate on the successful project implementation

- ATX contributes to the planning and delivery of MSc programmes in Computer Science and to the development and delivery of continuing professional development courses

- Academic staff in Computer Science offer consultancy advice and strategic analysis to ATX, and the CEO of ATX sits on the Industrial Advisory Board of the Department

Mutually beneficial

The partnership between ATX and the University of Leicester is built on a mutual understanding of each other's needs, met by a high level exchange of expertise; as a result it has become an enduring collaboration.

Skills are complementary: the company is small, agile with a successful history in software engineering and the ability to deliver cutting-edge software engineering tools; the University is highly scientific providing an innovative research and technological base with proven testing facilities.

The 8-year old partnership has for ATX delivered:

- Access to a highly skilled stream of computer science graduates from which to recruit
- 4 new members of staff
- Collaborative projects successfully won
- A well respected academic base from which to establish itself firmly in the UK
- Access to world-class scientific research
- A broadening of the company's skill and knowledge base
- Credibility and technological advantage from which to establish a global foothold in a competitive market

For the University of Leicester, it has delivered:

- Access to additional staff and skills, outside its resources, with which to plan and deliver industry-relevant academic programmes of study
- Collaborative projects successfully won
- A practical insight into the working practices and needs of SMEs
- A European business partner and competitive advantage in submitting research bids
- The chance to explore and apply new ideas through joint research collaborations with staff who are developing actual software systems

ATX & the University of Leicester
A successful collaborative venture

ATX and the University of Leicester's Department of Computer Science enjoyed a specific and successful collaboration as part of the European Union-funded *SENSORIA (Software Engineering for Service-Oriented Computers)* research project in which 18 partners took part over 4½ years.

Software evolves over time when adapting to new requirements and technologies. Over the years, this process of *software ageing* will obfuscate the original structure and make it harder to understand and adapt the software to future needs. When this happens, companies lose the agility they require to perform well in the highly competitive and volatile markets of today.

In order for such *legacy software* to deliver the same level of satisfaction over many years and retain the ability to be modernised, systems require constant adaptation and re-engineering. Complex and long-lived systems, such as those used by banks and other large organisations, pose great transformational challenges.

A simple analogy is the reconstruction of a house, where the original materials and installations are retained but the architectural layout is modernised.
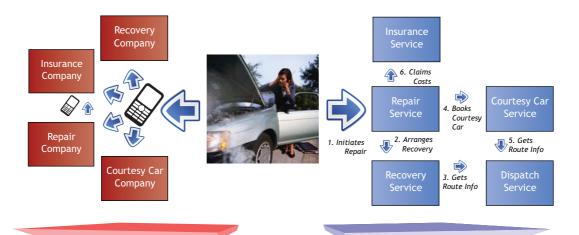
One of the new types of architectural layout in computer software, popular in industry for its ability to service the e-economy with the connectivity and adaptability required by businesses, is *Service-Oriented Architecture (SOA)*.

In a *SOA*, the Internet is used as a medium for the integration of business components, e.g. for a payment system such as PayPal to be embedded into an e-commerce application such as eBay while retaining its independence as a separate service.

In the *SENSORIA* project, researchers and software engineers at ATX and the Department of Computer Science have combined their expertise in the re-engineering of legacy systems and in service-oriented architectures and their processes to deliver a key component of the project.

As a result of the collaboration, new methodologies for reengineering legacy systems to Service-Oriented Architectures were defined, leading to commercial exploitation and ATX is currently looking at the possibility of several licensing opportunities. It also means that ATX can offer this highly specialised expertise to its client portfolio.

From Legacy to Service-Oriented Architecture: The Car-Breakdown Scenario

When your car breaks down you have to make telephone calls to several companies to arrange different aspects of recovery; in turn, these companies each need to liaise with each other (e.g. insurance company with repair company).

However, the process can be automated: if a SOA is adopted and companies make their services available as Web Services, it enables each to link to the other automatically. The car's onboard computer detects the breakdown, connects to the recovery service, which in turn communicates with the other companies. All the driver does is confirm the actions of the car's computer.
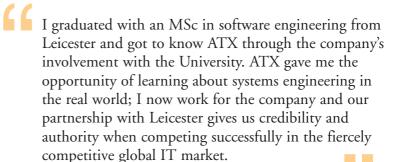
Company ambassador and contact

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> I graduated with an MSc in software engineering from Leicester and got to know ATX through the company's involvement with the University. ATX gave me the opportunity of learning about systems engineering in the real world; I now work for the company and our partnership with Leicester gives us credibility and authority when competing successfully in the fiercely competitive global IT market.
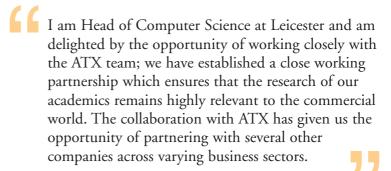
University ambassador and contact

Professor José Fiadeiro

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> I am Head of Computer Science at Leicester and am delighted by the opportunity of working closely with the ATX team; we have established a close working partnership which ensures that the research of our academics remains highly relevant to the commercial world. The collaboration with ATX has given us the opportunity of partnering with several other companies across varying business sectors.

University ambassador and contact

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> Working with business brings many ideas and openings for the University of Leicester. The collaboration with ATX is no exception and the ongoing opportunities for working together are testament to the trust and strong partnership between the two organisations.

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