Artificial Intelligence Projects Deliver Tangible Results

The XENON professional services team deploy artificial intelligence models on real world problems that have tangible, measurable business results. Working closely with our customers, we get to the heart of the problem and develop practical solutions.

In recent work in manufacturing, a defect identification and rectification model reduces QA problems and increases customer satisfaction.

In mining, the team implemented a vehicle identification system which increases safety compliance and provides more efficient access to mining sites.

AI PROJECT SCOPING SERVICE

Thinking about AI, but not sure where to start? Tried AI before but the project stalled?

The XENON team is offering a fixed price scoping consultation to assist you to get started. You will receive a structured project plan with your Roadmap to AI, including:
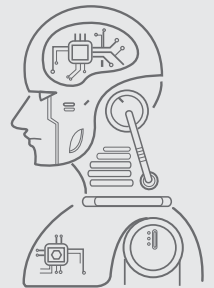
- Problem definition
- Types of insights that can be obtained
- Extracting value (and data) from existing business processes
- New business processes to capture more or better data
- AI Model, hardware, skillsets and upskilling recommendations
- Step-by-step map for moving forward, and clarification of expectations of what AI can deliver for your business.

Organisations taking up further AI services or purchasing AI hardware from XENON will have the costs of the AI Project Scoping credited to that next purchase.

Get Started Today

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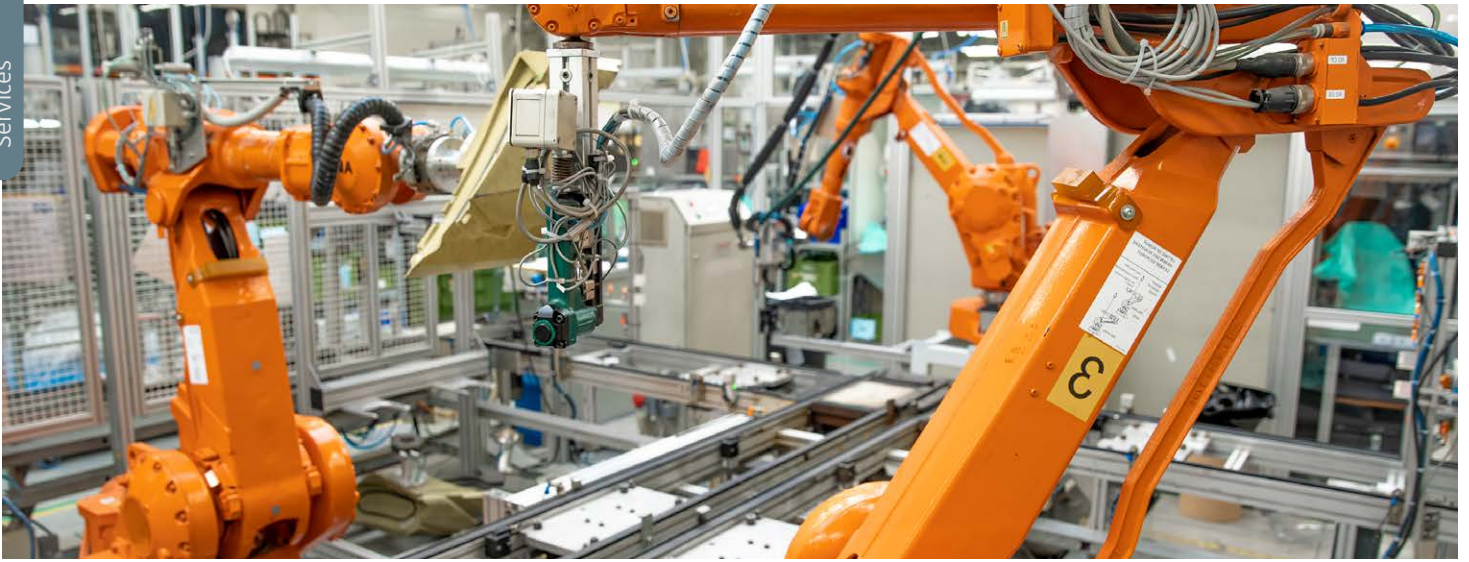
CASE STUDY: MANUFACTURING

The client is a start-up, helping industry customers identify and manage manufacturing defects. They had developed a data set and models using traditional computer vision techniques to identify and classify defects. They brought the XENON team in to see how they could improve their capabilities.

Data labelling was being done in-house and was a very expensive and time consuming process. The labelling process is also very subjective, and often labels for the same data would vary depending on who was classifying the defect image. The XENON team was able to implement a process for external, professional data labellers to take over this task, which resulted in lower costs and increased consistency.

Defect data is often very rare, so we also implemented new deep learning models that can be trained while working within the constraints of limited example data. The deep learning models were also trained to deal with inconsistencies and natural variations in defects, developing a robust response to variations with increased accuracy and greater richness in reporting data.

This has developed into a long-term engagement, where we form a permanent part of the client's team. And the better identification of defects has resulted in fewer defects overall. This has reduced wastage, increased material efficiency, and lifted overall quality in the manufacturing process which also has benefited customers' experience of the product.

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CASE STUDY: MINING

The mining customer was looking for a solution to help them identify vehicles on their worksites and track their movements on various parts of the site. They also had some unique environmental constraints – camera mounting points were exposed, video feeds often obscured and dusty, and the general environment was dusty and hard on computer equipment.

The XENON team developed a computer vision based solution to identify and track the movement of vehicles on the worksite. This involved advice on data collection, assistance with data labelling, and developing software and trained AI models that detect and read license plates and other identification marks on the vehicles and classifies them by type. The model also had to be robust and able to accurately function with poor images and vehicles.

The XENON team also assisted with the implementation of the final solution, adapting the hardware and software to the unique environment of the client. This included implementing fan-less, ruggedized computer units and a parallel threaded software to run effectively at the edge on these lower power compute units. Implementation also included integration of the solution into existing systems and ERP related to the vehicle movements.

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Professional Services for Artificial Intelligence Projects

XENON provides a range of professional services to support clients implementing artificial intelligence solutions. We offer end-to-end solutions that cover all aspects of artificial intelligence and provide bespoke services that fill gaps in your team. The XENON AI team is very flexible and experienced in working with complex teams to compliment in-house skills.

When we scope artificial intelligence projects we look at data, models, and then deployment. In a circular fashion, deployment leads to more data, and better models. Along we the way we can provide one-on-one and group training to upskill your team, or we can manage discrete aspects of the project as your team builds experience and expertise.

DATA MANAGEMENT

An AI model is only as good as the data it has. And models need lots of data. The XENON team can assist through all your data management issues.

- Identification of which data is useful for training your AI model.
- Setting up processes to collect useful data.
- Analysis of existing data.
- Cleaning data.
- Managing the process of data labelling.
- Optimising data storage infrastructure for capacity and speed, ensuring all your data is available to your AI model when needed.

MODEL DEVELOPMENT AND TRAINING

Once you have your data set organised, you need to start developing your AI model through the training phase. The XENON team provides:

- Advice on selection of suitable AI model architectures to work with your data sets.
- Infrastructure required for your model size, training and inference needs – both today and into the future. This may be GPU workstations or servers, or cloud services.
- Hands-on assistance in training and evaluation of AI models.
- Necessary software to support the development of your AI models.

DEPLOYMENT

The exciting part arrives when the models are live and dealing with real world data. Depending on your requirements this may happen in a data centre, on edge devices, or a combination. Whatever your needs, the XENON team has you covered.

- Advice on suitable infrastructure for deployment – in the data centre and the edge.
- Managing the software stack to support the deployment of trained models.
- Provide continuous support and advice for ongoing improvement of model performance over time.

EDUCATION

XENON is an accredited provider of NVIDIA Deep Learning Institute courses, including courses on the fundamentals of computer vision, multiple data types, and RAPIDS. XENON also delivers custom training courses to up-skill individuals and teams in specific areas of AI.

XENON's accredited trainers bring a powerful mix of theoretical knowledge and diverse real world applications to courses while providing a hands-on learning experience. XENON training services are a great compliment to professional services engagements, providing skills transfer and team development.

XENON Professional Services for AI deliver tangible results for your organisation.

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