

## The total AI Vision solution

### AI for business today

There is no avoiding it, AI is crucial to our future. But are you ready to introduce AI into your company? What does it entail? How much will it cost? What will it bring to your business?

The uses are numerous and so exciting: image processing in the medical field, helping diagnosticians in their work; Smart Factories, machines scheduling their own maintenance, analyzing images and video to keep areas safe; Retail stock scheduling...

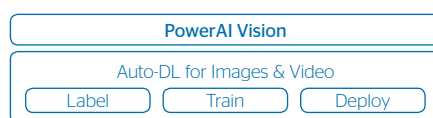
Artificial Intelligence (AI) is being considered for implementation by many companies to expand their business possibilities and perspectives. Escala POWER9™ servers, uniquely designed to handle large data sets, and with the speed needed for training, are an excellent choice to develop and provide the models required to enable AI.

But hiring the expertise you need is expensive and not easy. Start in-house with Escala and PowerAI Vision: Atos can provide a full solution, from design to deployment, which you can implement without hiring costly data scientists.

### PowerAI: Machine Learning (ML) SW stack

Escala uses a complete ML stack, PowerAI, making Machine Learning accessible to a larger public. PowerAI offers an innovative, easy to use ML stack, including pre-packaged and pre-optimized ML tools, with leading frameworks and libraries. This drastically reduces implementation complexity, offering ease of use, as well as revolutionary semi-automatic data-labeling.

### PowerAI Vision

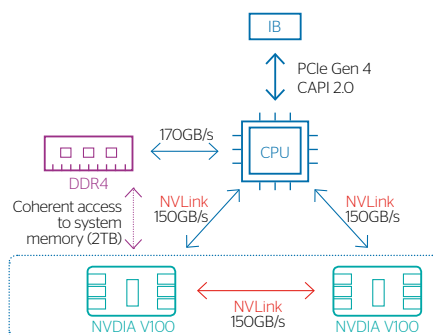


Get a quick start on AI and test it out with PowerAI Vision. PowerAI Vision provides a platform for creating deep-learning models with no complex programming required! An innovative GUI makes data labeling, model training and deployment easy and even fun. The PowerAI Vision package is a complete ecosystem for training, creating and deploying deep-learning models as suited to your business.

### Atos provides the full circle of AI infrastructure and service

Atos provides the PowerAI Vision suite but also the framework, the underlying accelerated infrastructure designed to exactly fit the needs of the ML models. Then PowerAI Vision provides ease of labeling, training and deployment. Atos completes the circle by offering an innovative edge server solution. With several years of experience in AI already, Atos can deliver the services and expertise to fully support the customer all along the way.

### Escala servers: designed for business in the digital age



POWER9™ technology is uniquely designed for data intensive workloads. Training times are drastically reduced thanks to the market-unique NVLink bus between CPUs and GPUs. Large Models Support does not compromise on data ingestion, POWER9™ offers unprecedented capabilities for intelligent innovation in Machine Learning and high-speed data processing. Trained models can be deployed on GPUs, FPGAs, CPUs.

Escala servers also reduce TCO through leading performance, highest level reliability, superior security isolation, and virtualization efficiency.

### Big Data and Analytic workloads

POWER9™ offers massive ingestion capabilities for complex deep learning applications thanks to the accelerated compute devices, networking and storage.

### Escala PowerAI Vision advantages

PowerAI Vision has several obvious advantages. It is created for the subject matter experts: you do not have to be a data scientist to use PowerAI Vision. The AI process is streamlined to accelerate the DL model lifecycle. Data labeling is also so much faster thanks to the PowerAI Vision auto-labeling feature.

PowerAI Vision is not however only limited to business users, there are many tools available to data scientists enabling them to create their own deep learning models, which can then be used by PowerAI Vision. And finally, PowerAI Vision is the only full solution offer on the market that includes all Machine Learning steps within a GUI. Atos can provide the entire architecture as well as the expertise and services as needed to put it into place.

## Acceleration platform for ML



Escala L3-OP90 is based on 2x POWER9™ small cores (SMT4) with NVLink 2.0 CPUs and provides up to 2 TB of memory. It's the differentiated platform for GPU acceleration thanks to the POWER9™ with NVLink 2.0 technologies and its amazing CPU to GPU and GPU to GPU communication, which greatly improves performance and data flow. Escala L3-OP90 servers are ideal for (Distributed Deep Learning) DDL.

## BullSequana Edge for IoT, Deployment of inference clients



Increasingly powerful processing and machine learning inference capabilities

are required at the Edge of the networks to enable next generation, transformative AI and IoT applications. BullSequana Edge has been designed to meet these challenges, delivering powerful AI inference and streaming analytics capabilities while ensuring that all data remains safe and secure.

## Atos OpenPOWER Member

The OpenPOWER Foundation is an open industry consortium, with 350+ members (including Google, Mellanox, IBM, Redhat, and notably, Atos) for developing and promoting the Power Architecture. Member companies provide innovations such as custom systems for large or warehouse scale data centers, Machine Learning acceleration through GPU, FPGA or advanced I/O, platform optimization for SW appliances, or advanced hardware technology exploitation. POWER9™ is a key component of the OpenPOWER landscape.

## Escala PowerAI Vision underlying HW architectural elements

### Escala L3-OP90

System package	2U, 19" rack
Microprocessors	2x POWER9™ with NVLink CPUs
Cores/socket	16-cores, 20-cores
L2 cache	512 K
L3 cache	10 MB
# of processor sockets/server	2 sockets
POWER9™ Processor	POWER9™ SMT4 (small core) 16-core - 2.7 GHz (3.3 GHz "turbo") 20-core - 2.4 GHz (3.0 GHz "turbo")
RAM (memory) Min - max. memory (All memory is active)	32 GB to 2048 GB, from 16 DDR4 RDIMM Sockets
Processor-to-memory bandwidth	170 GB/s per socket, 340 GB/s per system
Internal disk storage	2x SFF (2.5") drive bays, optional NVMe SSD support in PCIe slots
System unit disk/SSD bays with standard or split backplane	
Adapter slots	4 SXM 2.0 sockets, for NVIDIA Tesla V100 GPU Accelerators with NVLink.
Maximum PCIe PCIe Gen3/Gen4 slots1, 2 (with two procs)	PCIe Gen4 slots - Two PCIe x16 G4 LP slot, CAPI enabled - One PCIe x8 G4 LP slot, CAPI enabled - One PCIe x4 G4 LP slot
Max total TB storage (system unit plus EXP24S OR EXP24SX disk)	Two 2.5-inch SATA drives for a maximum of 4 TB hard disk drive (HDD) or 768 TB of solid-state drive (SSD) storage.
I/O ports	2x USB 3.0, 2x 1 GB Eth, VGA
Linux support	Red Hat Enterprise Linux; Ubuntu Linux

## Why Atos?

Atos is a global leader in digital transformation with over 110,000 employees in 73 countries and annual revenue of over € 11 billion. European number one in Cloud, Cybersecurity and High-Performance Computing, the Group provides end-to-end Orchestrated Hybrid Cloud, Big Data, Business Applications and Digital Workplace solutions. The group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and operates under the brands Atos, Atos Syntel, and Unify. Atos is a SE (Societas Europaea), listed on the CAC40 Paris stock index.

The purpose of Atos is to help design the future of the information technology space. Its expertise and services support the development of knowledge, education as well as multicultural and pluralistic approaches to research that contribute to scientific and technological excellence. Across the world, the group enables its customers, employees and collaborators, and members of societies at large to live, work and develop sustainably and confidently in the information technology space.

For more information, come and see us at:

[atos.net/escala](https://atos.net/escala)

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