Driving your targets

Mission

Deliver an advanced digital management platform to drive the best in class of maintenance target with highest performance on reliability, productivity and efficiency.

Vision

Realizing high technology solutions based on deep learning, machine learning and artificial intelligence fully integrated in the Industrial digitalization 4.0 process.

Advanced Technology for Smart Services

WE EXPAND YOUR SKILLS

Advanced …

digital management platform for the best in class of maintenance concepts with highest performance on Reliability, Efficiency and Productivity.

Technology…

solutions based on deep learning, machine learning and artificial intelligence fully integrated in the Industrial digitalization process to predict and prevent failures.

4

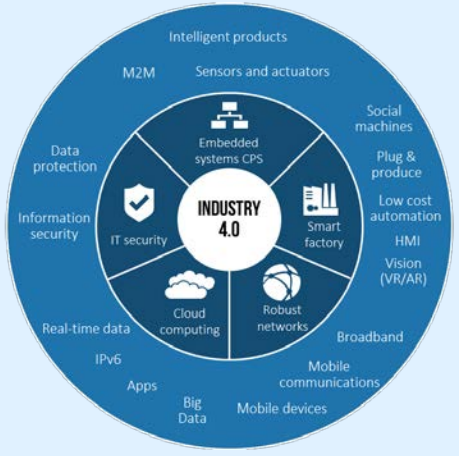
Smart …

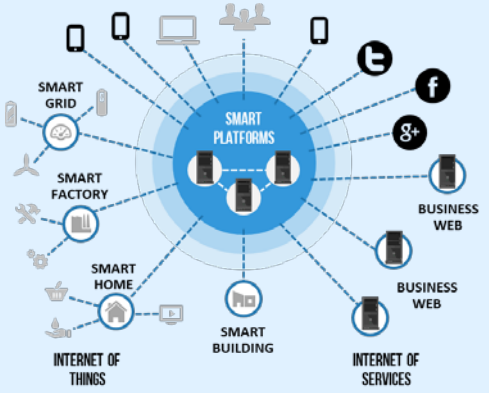
productive solutions developed with user-friendly web and mobile applications integrated on industry processes.

Services …

with high performances for the entire Asset Management value chain and the production process.

INDUSTRY 4.0 compliance





Drive your power with an integrated smart platform

AT4driver

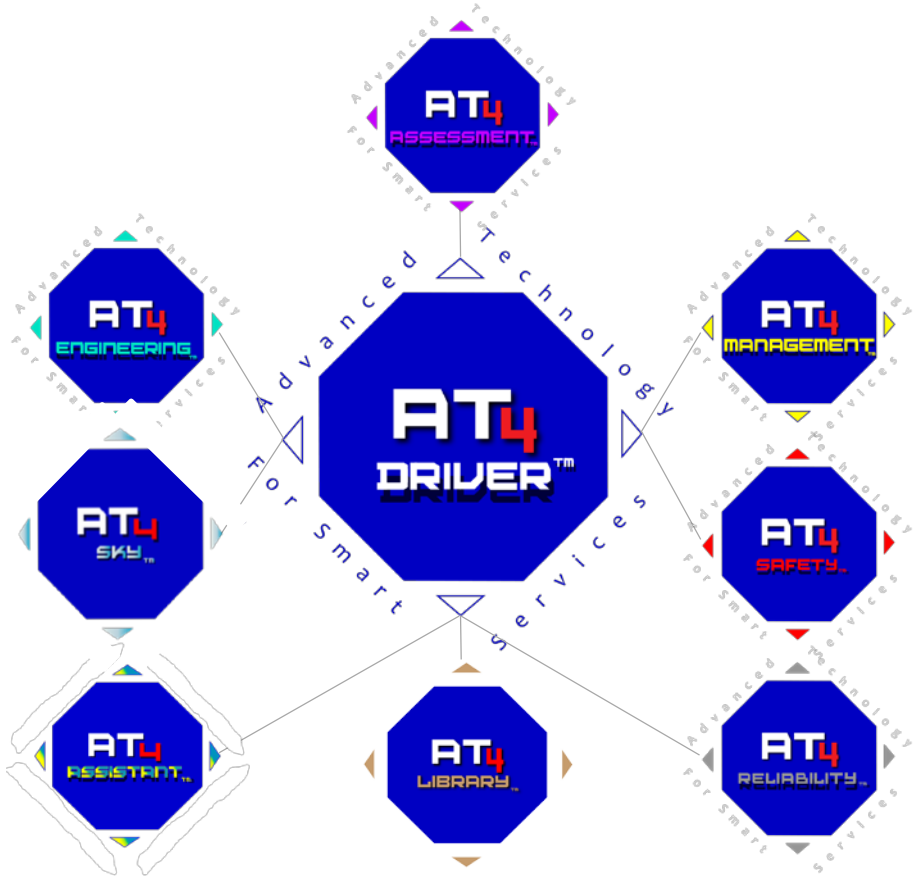
Business Intelligence system:
complete performance management: costs, safety, quality, reliability, availability, efficiency, productivity, warehouse, down-time, OEE and technical parameters.

AT4engineering

Maintenance engineering design system.
AT4 engineering ™ allows you to draw the equipment tree, design and optimize all preventive and predictive maintenance activities identified through the application of RCM and FMEA methodologies.

AT4sky

Technological drone service solutions realized with Unmanned aerial vehicle (UAV an aircraft without a human pilot) for raw material tracking, safety and structural inspections, spare parts inventory,



AT4assistant

Remote assistant solution:
Remotely support and online guide, assist technicians to solve all problems. Application work on mobile devices: tablets, smartphones, and smart glasses.

AT4library

Document management system:
total control of versioning and permissions of any type of document stored in any format, compliance with the new Vision 2000 regulations and ISO 55000

AT4assesment

Benchmark performance assessment:
Complete GAP analysis and benchmark according to: EFNS, UNI EN 15628 and ISO 55000.

AT4management

It is an efficient customization of Infor EAM (**Enterprise Asset Management system**). Integrated with all AT4 applications, ERP systems and automation industrial systems, it is the base of the "World Class Maintenance" implementation and the "Best in class" efficient and sustainable result

AT4safety

Safety web and safety gate systems:
safety web manage the complete registration and monitoring of all safety-relevant: events, unsafe conditions, unsafe actions, near misses, planned safety inspections and safety risk analysis. *Safety gate* tack online all PPE (personal protective equipment) utilized by workers.

AT4reliability

On-condition monitoring systems:
application allows to develop and monitor a complete predictive maintenance connected to machines and equipment for main physics parameters.

Driving your targets

KEEP CONTROL IN YOUR HAND

AT4driver is the heart and mind of the platform.

Through an interactive smart dashboard you can manage and monitor in real time the complete maintenance process and the productivity targets.

Linked to the management systems and industrial processes systems, **AT4driver** allows you:

- to have the complete real-time results, on-time forecast and history on Costs, Productivity, Reliability, Warehouse, Works, Efficiency, Continuous improvement, Quality and Safety
- to setup KPIs and targets
- to manage set-points and score of alarms
- to manage “actions on condition” and generate automatically proposals in relationship to performance gaps thanks to the concepts based on deep learning, machine learning and artificial intelligence.

Everything under control, like driving your car.

Driving your targets

KEEP CONTROL IN YOUR HAND

AREA	CATEGORY	
WORK ORDERS & TICKETS	Status	
	Category	
	Classes	
	Lead time	
	Backlog	
	Pareto analysis	
SAFETY	Global safety index	IF - Frequency index
		IG - Gravity index
	Categorization	Incident
		Causes
		Place
		Part of body
		Site
	Mean time action follow-up	
	Preventive inspection	
	Unsafe conditions	
QUALITY	Legal requirements	PmP On time delivery
	Product requirements	calibrations results on target
RELIABILITY	MTTR	
	MTBF	
	RPI - Reliability Peformance Indicator (MTBF/MTTR)	
CONTINUOUS IMPROVEMENT	Activity & projects gantt	
	Training hours	
	Suppliers evaluation	
	Cutomer satisfaction	
EFFICIENCY	Maintenance cost on budget	
	Productivity cost	
	Energy vectors cost efficiency	
	Maintenance productivity	

AREA	CATEGORY	
COSTS	per type of Work	Type of Maintenance
		Work typology
		Account type
	per Asset	Equipment tree level
		Category
		Classes
		Asset Criticality
		TCO - Total Cost of Ownership
	Pareto analysis (only per multisite)	
PRODUCTION PRODUCTIVITY	Cycle time	
	Set-up time	
	Down Time	
	O.E.E. Overall Equipment Effectivess	
	Quality production result	
	Traceability	Products
		Orders
	Raw material	Stock
		Consumption
MAINTENANCE PRODUCTIVITY	Maintenance schedule compliance	
	Maintenance planning compliance (result / planned)	
	Maintenance overtime	
	WO with registered costs	
	WO opened on machine level	
	Root cause analysis on WO breakdowns	
	Planned maintenance work	
WAREHOUSE	IRI Inventory Rotation index	Warehouse
		Category
	Value	Warehouse
		Category
	Stock out alarm	
	Safety stock	
	Critical spares alarm	
	multi Warehouse management	

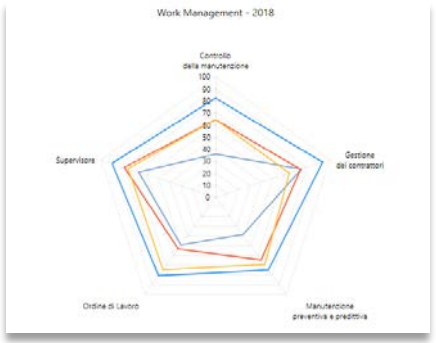
AT4assessment™

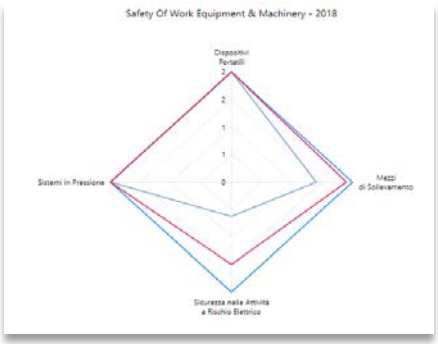
AT4assessment™ supports engineers and analysts during the execution of any kind of assessment or survey, both managerial and technical, that can be properly customized and configured.

It is composed by two main parts: a central web application that can be accessed by using an internet browser and a mobile application to install on mobile devices, such as smartphones and tablets, to be easily utilized during the work. AT4assessment™ is available in any language required by Clients' users and has multiple utilities, which can make the configuration easier and facilitate the execution of real-time assessment tasks.

The core process of AT4assessment™ is focused on twelve categories based on the world-class maintenance process: Maintenance organization and people evaluation, work orders process, planning and scheduling, tools, costs control, supply chain and vendors management, warehouse management and spare-parts optimization, process mapping and productivity analysis, quality and safety management, digitalization processes, KPIs management and the Continuous improvement management.

*According to **EFNS** European Federation of National Maintenance Societies,*
***UNI EN 15628**: Maintenance – Qualification of Maintenance personnel and*
***ISO 55000**: Asset management - Overview, principles and terminology*





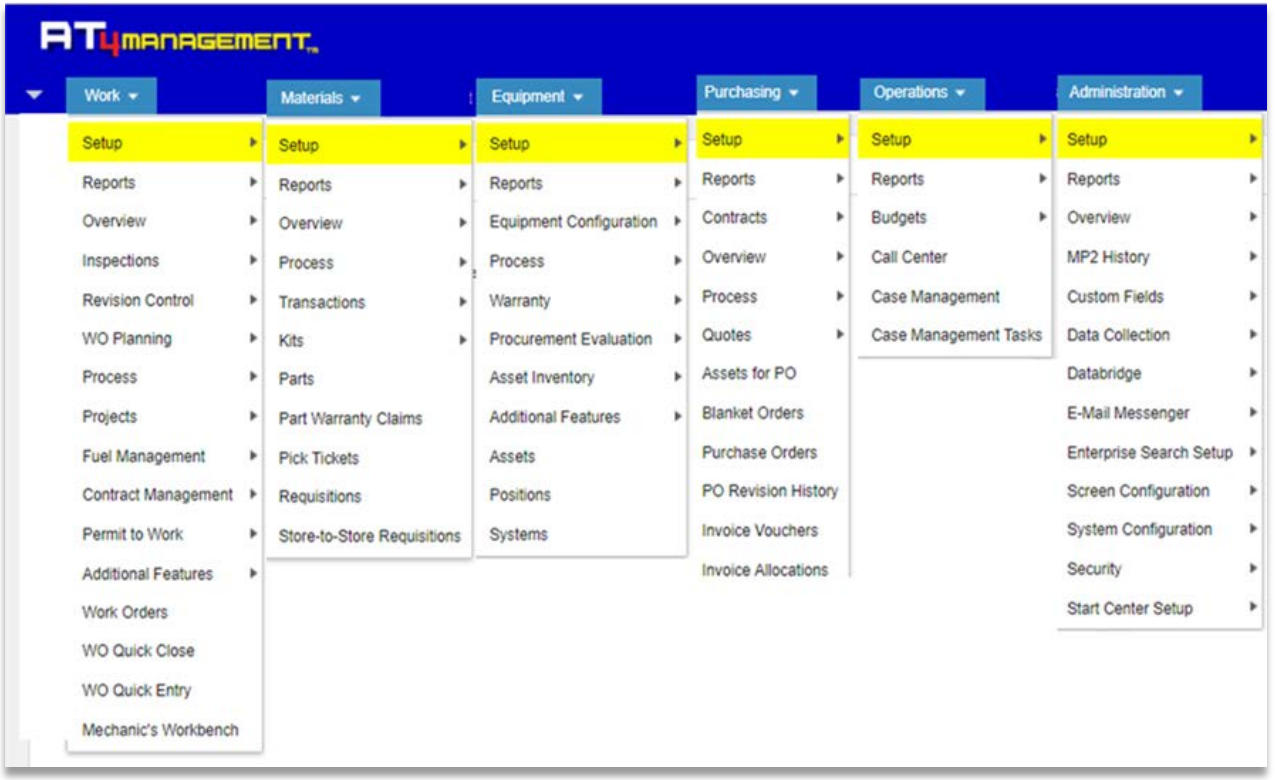
AT4management™

AT4management™ is a specific customization of **Infor EAM**, a best-in-class enterprise asset management software solution with rich built-in functionality and flexibility. Integrated with others AT4 applications/solutions, ERP systems and automation technology systems as needed is the base of the World- class maintenance implementation.

Built on a Scalable and dynamic platform with high uptime and able to handle elastic demand, Infor EAM's modern architecture scales to add computing power as needed.

AT4management™ is deployed in the cloud through the AT4 platform. A dedicated "mobile app" application permits the right operating efficiency to manage the work orders (in the complete flows), such as the booking and consumption of spare-parts. AT4management is supported on all mobile devices, for an informed and efficient decision making.

AT4management™ manages the complete asset management process: from projects to the work orders, from purchase request to the purchase orders and goods registration, from spare part inventory to safety stock management, from worker to the supplier skills. All activities are linked to equipment (Asset) and the equipment are linked to an equipment tree. All costs and KPIs can be managed with the roll-up concept of the father / group. e.g.: plant, process, production line, machine, asset group, asset and so on.



AT4safety™ (Safety gate module) example of applications

AT4safety™ is a suite of modules designed and developed to support the implementation of Operational Safety within complex working environments, like restricted areas, construction yards, hazardous places where it is important to check if workers got all the needed conditions to perform the assigned work. It makes easier the management of sub-contractors and elaborates the work progress in real time.

safety web manages the complete registration and monitoring of all safety-relevant: events, unsafe conditions, unsafe actions, near misses, planned safety inspections and safety risk analysis.

Safety gate It is based on the utilization of radiofrequency and automatic identification to facilitate and make more efficient the collection of information that can be crucial in some working places, to ensure a proper and dependable level of workers safety by automatically checking the utilization of PPEs and the availability of all the necessary training certificates to perform some specific tasks.

Safety web application and AT4driver result

Safety gate

AT4reliability™

AT4reliability™ is an online condition monitoring system. The application allows to develop and monitor a complete predictive maintenance thanks to the interconnection with the level of automation process, machines and lines. Through the online system, it is possible to manage the following main aspects: time–frequency analysis of signals, fault feature extraction, singularity detection for signals, denoising and extraction of the weak signals, compression of vibration signals and main root causes. Automatic work orders are generated in AT4management™ in order to have the complete breakdowns' traceability and machine fault diagnostics analyses/results.

Set points and alarms can be set on the main technical parameters such as: vibration, angular velocity, electrical quantities (voltages, currents, etc.), torsional torque, temperature, condition of lubricating oil, visual and thermographic images, other physical quantities to prevent and predicting possible breaks and production stops. Dedicated algorithms studied for specific machines / processes allow the maintenance engineers to design and decide the right and efficient maintenance.

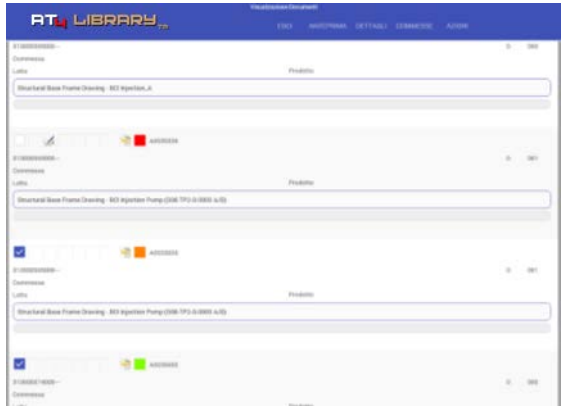
AT4library™

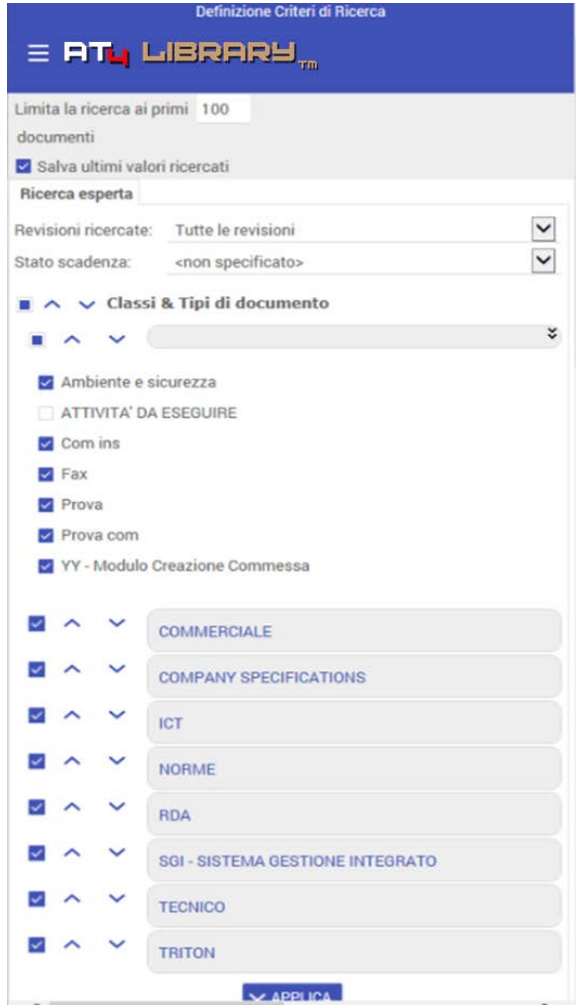
AT4library™ is a simple and complete solution for total control of any type of document stored in any format, fully customized to manage and store in compliance with the new Vision 2000 regulations. It is a system used to track, manage and store documents and reduce paper.

AT4library is capable of keeping a record of the various versions created and modified by different users (history tracking), it is designed to manage the permissions of the documents and the different approval flows

Unauthorized user can not delete, view or modify the documents on which he or she does not have the necessary authorization.

Completely integrated in the AT4S2 platform, it is possible to open and upload documents in each application.





AT4assistant™

AT4assistant™ is a remote vdeo helpdesk system designed to provide remote assistance in real time, ideal for all sectors, from the production industry to domestic systems.

Indeed, with AT4 assistant™, you can not only offer support to all your customers, helping them to resolve simple problems when there is no need for direct intervention, but also to your technicians working on the field, out of the office or in foreign locations, when they need the support of an expert colleague.

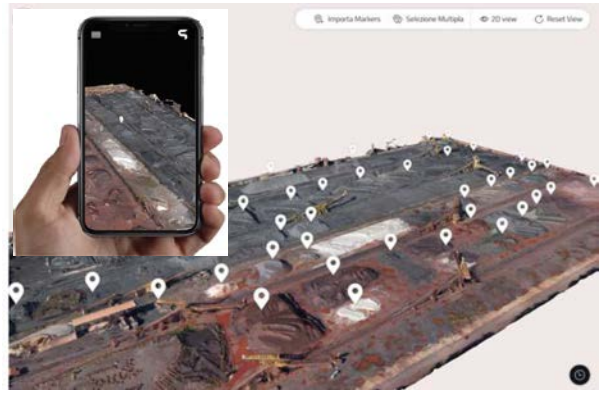
For companies that want to equip their field technicians of smart glasses that allow to make support with hands free, AT4assistantant™ offers a dedicated equipment in Android technology.

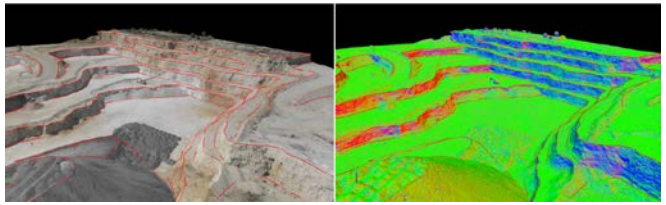
AT4assistantant™ App is easy to manage, light and user-friendly; it adapts perfectly to all versions of Android 4.0 and above and enables you to receive support at any time, by putting you into contact with an expert.

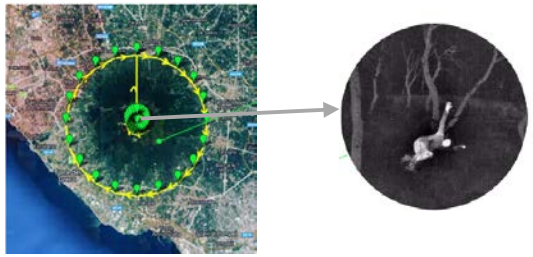
AT4sky™

AT4sky™ is a technological drone service solution (integrated in AT4 platform) realized with Unmanned aerial vehicle (UAV), an aircraft without a human pilot.

With this service we can do for you: inspections' activities, remote controls, traceability of historical analysis, monitoring of large buildings such as: roads bridges, high voltage pylons, dams, buildings….. Photometric analysis of quarries. Security prevention and control. Analysis of the state of health of plants and land. In energy sectors you can prevent failures thanks to predictive analysis.







infrastracture

agriculture

energy

geomatics

security

prevenction

AT4engineering™

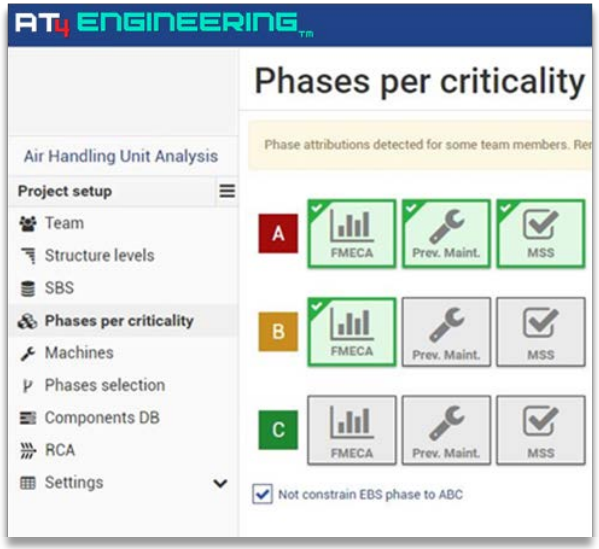
AT4engineering™ is an integrated solution for reliability and maintenance engineering. The solution facilitate and support the design of maintenance / engineering work related to the execution of extensive Maintenance and Reliability Engineering and Management projects.

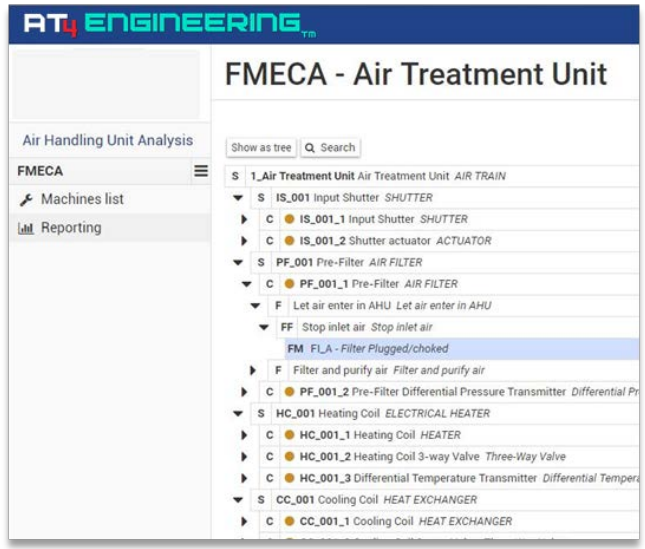
Thanks to the chance of utilizing specialized libraries, related to failure classes on one side and routine and preventive maintenance classes on the other side, AT4engineering™ can dramatically help the involved teams to work with a high level of quality and efficiency.

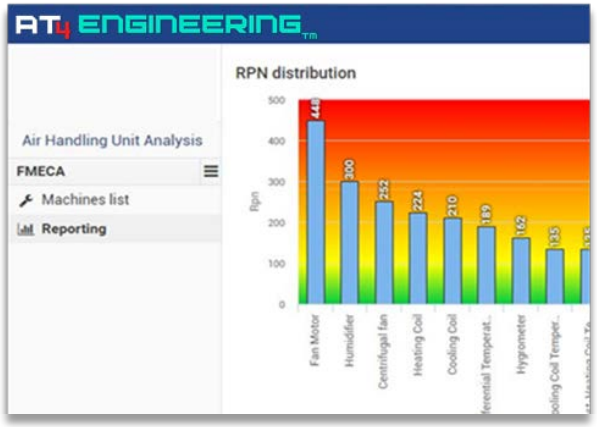
AT4 engineering ™ allows you to draw the equipment tree, design and optimize all preventive and predictive maintenance activities identified through the application of RCM, RBI and FMECA/FMEA methodologies.

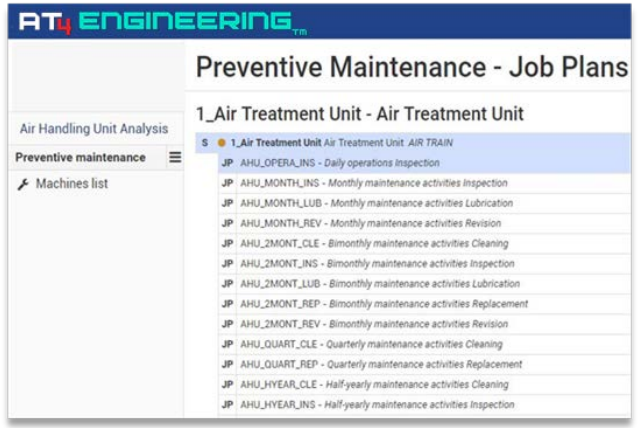
The software application is natively web-based and easily accessible by utilizing last generation web-browsers; for this reason, it is not necessary to install any software on users' computers, but only to run common internet browsers.

AT4engineering™ can be utilized as a collaborative environment where different people or groups can cooperate by using the same rules, but with segregated and partial views to provide their contributions only for those parts they are assigned to.





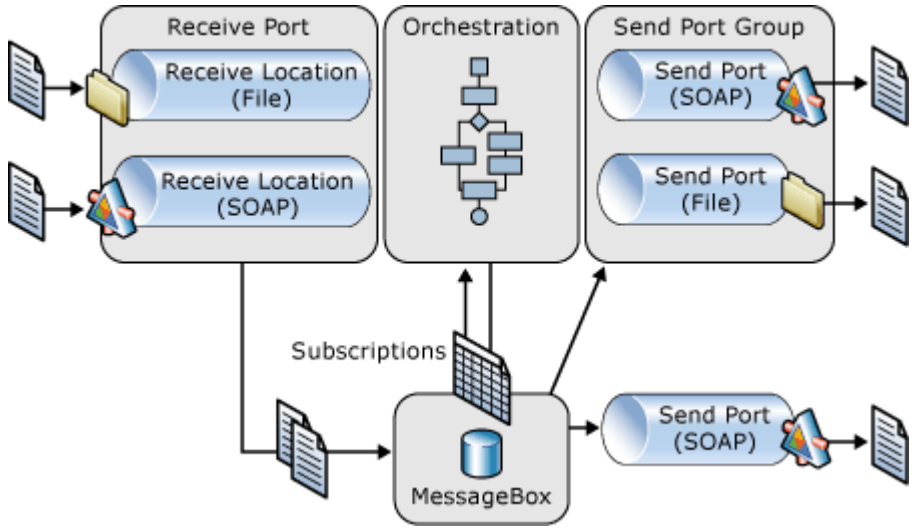


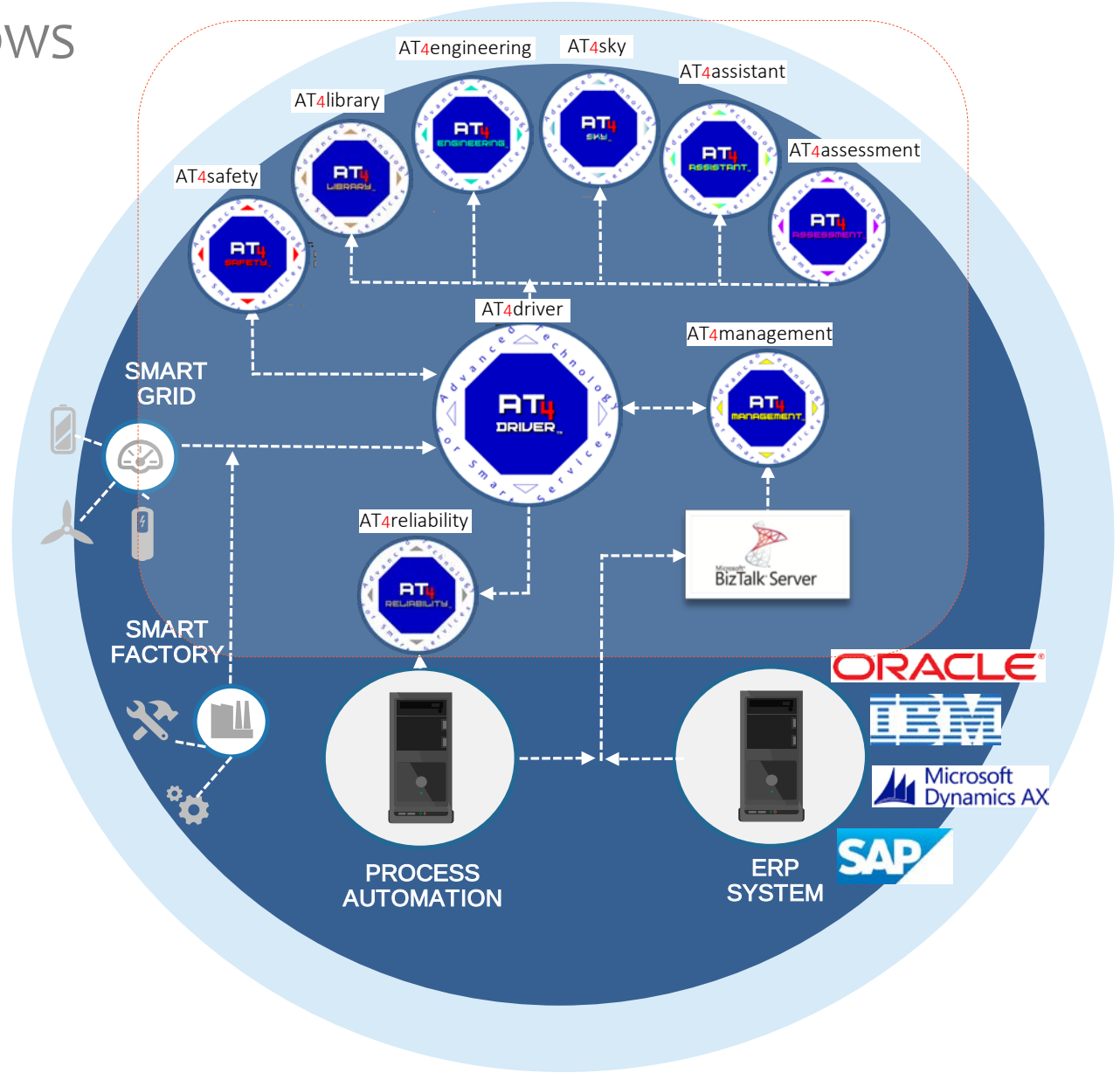


Network concept

SAFE AND EFFICIENT COMMUNICATION FLOWS

Through an Interorganizational Middleware System (Microsoft BizTalk Server) the flows of data is managed with the highest standards of security and reliability.
A common DB for main data and needs ensures efficiency and flexibility.





Main benefits

THE REAL ADDED VALUE

Cost savings

- Better budget's management
- Better expenses' management
- Optimization of productivity
- Optimization of "make or buy" decision process
- Reduction of energy consumptions
- Lost time reduction

Safety and quality

- Online global safety results: global index, incident, safety preventive actions
- Quality and legal traceability: legal requirements, product requirements, on time delivery
- Reduction of safety risk and incidents

Warehouse

- Online inventory value
- Online Inventory Rotation Index (total warehouse and spares)
- Stock-out management
- Multi warehouse management
- Crtical spare management

Continuous improvem.

- Failures reductions, growth of productivity
- Optimization of maintenance policies /strategy
- Continuous cost reduction for lack of quality (zero-defects strategy)
- Continuous cost reduction for non compliance

- Alarm management and tracking on expenditures related to cost center, production line, equipment and types of maintenance.

- Alarm management and tracking on legal and quality requirements. Productivity under control, complete traceability of historical events

- Alarm management and tracking on safety stock, inventory value and material expenditures. Warehouse strategy and efficiency completely under control

- Alarm management and tracking on performances and targets. Deep learning, machine learning developed to predict and prevent failures.

AT4S2 platform: smart solutions for

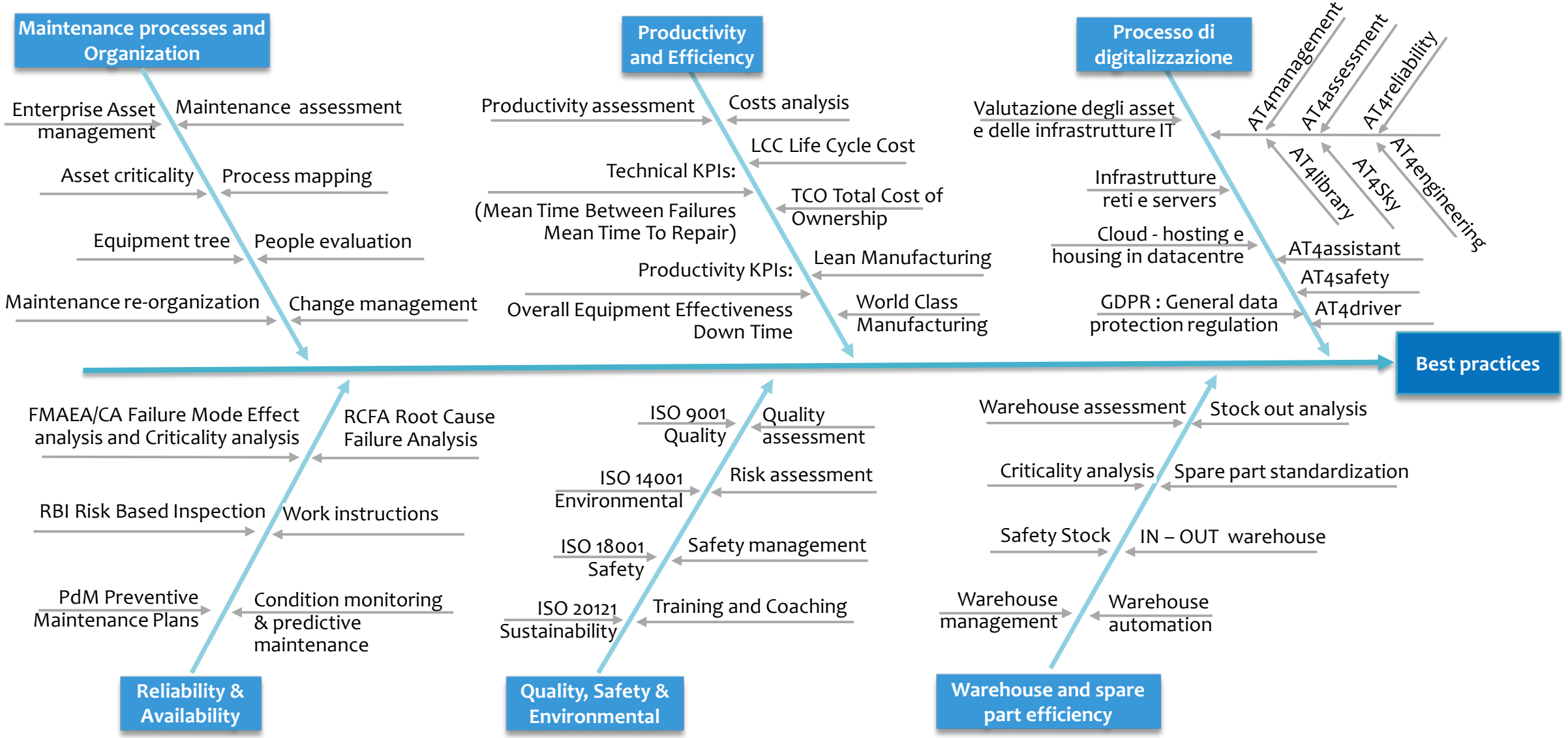
“World-class Maintenance” and “Best in class” development

Maintenance activities

DO YOU CHECK THE RIGHT PRIORITY?

Maintenance strategy for Reliability, Efficiency and Productivity

WHEREVER YOU ARE, WE HELP YOU TO FIND THE RIGHT WAY FOR THE OPERATIONAL EXCELLENCE



Four principles of world-class maintenance

THE BEST IN CLASS OF MAINTENANCE

Empower employees

The maintenance system's success depends on improving skills and involving employees in the development of new work standards. It includes training in standard maintenance as well as in lean methodologies to increase a sense of equipment ownership.

Minimize costs

Focus on a clear increase in maintenance efficiency, reflected in annual cost reductions and reduced spare-parts inventories.

Increase asset availability

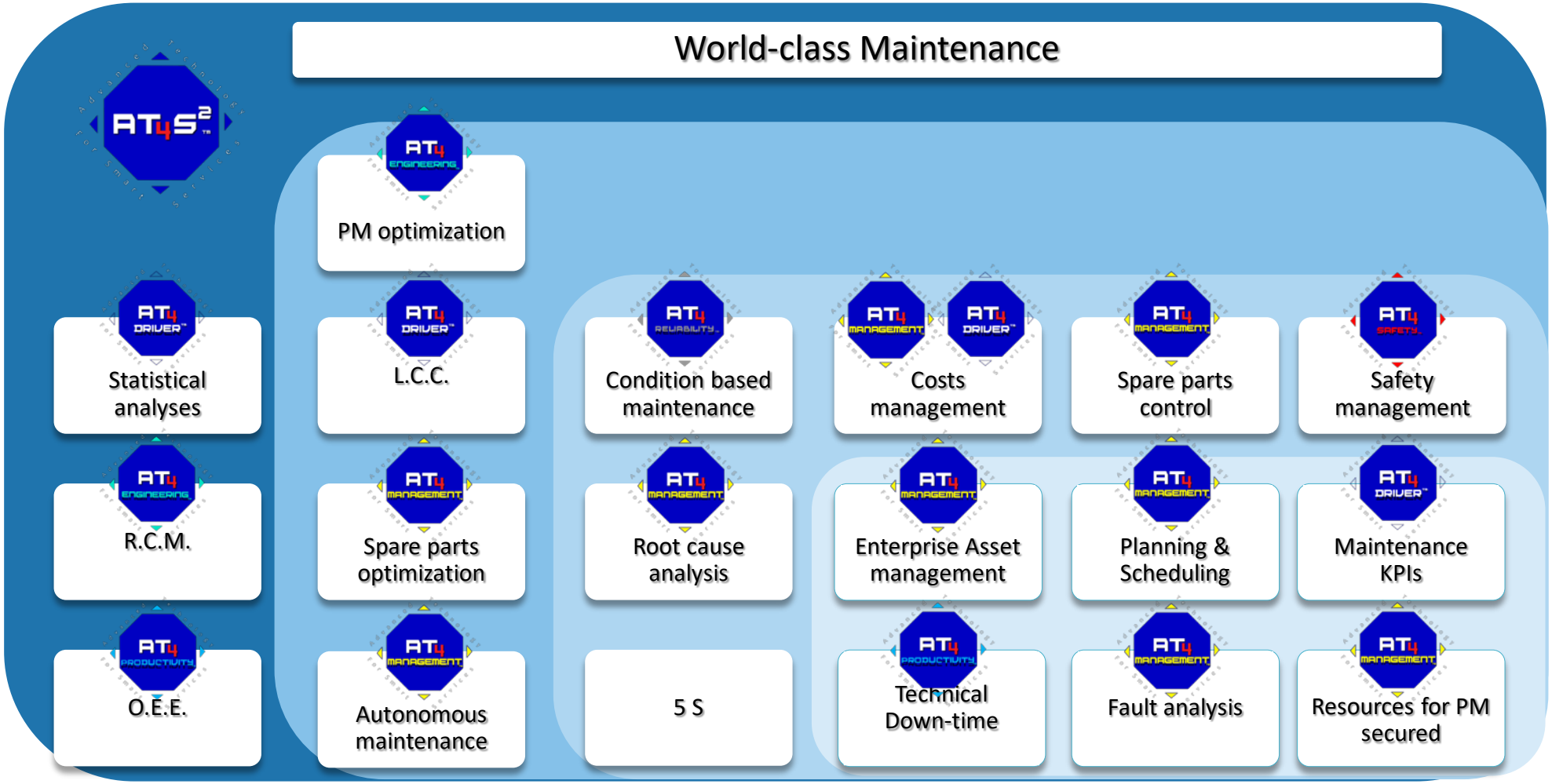
Meeting growing customer demand requires continuous improvement in asset utilization and equipment effectiveness. Shifting from a reactive to a proactive approach can reduce breakdowns and extend the lifespan of equipment.

Emphasize Safety & Quality

In addition to efficiency, priorities should include safety, environmental impact and product quality.

World-class Maintenance

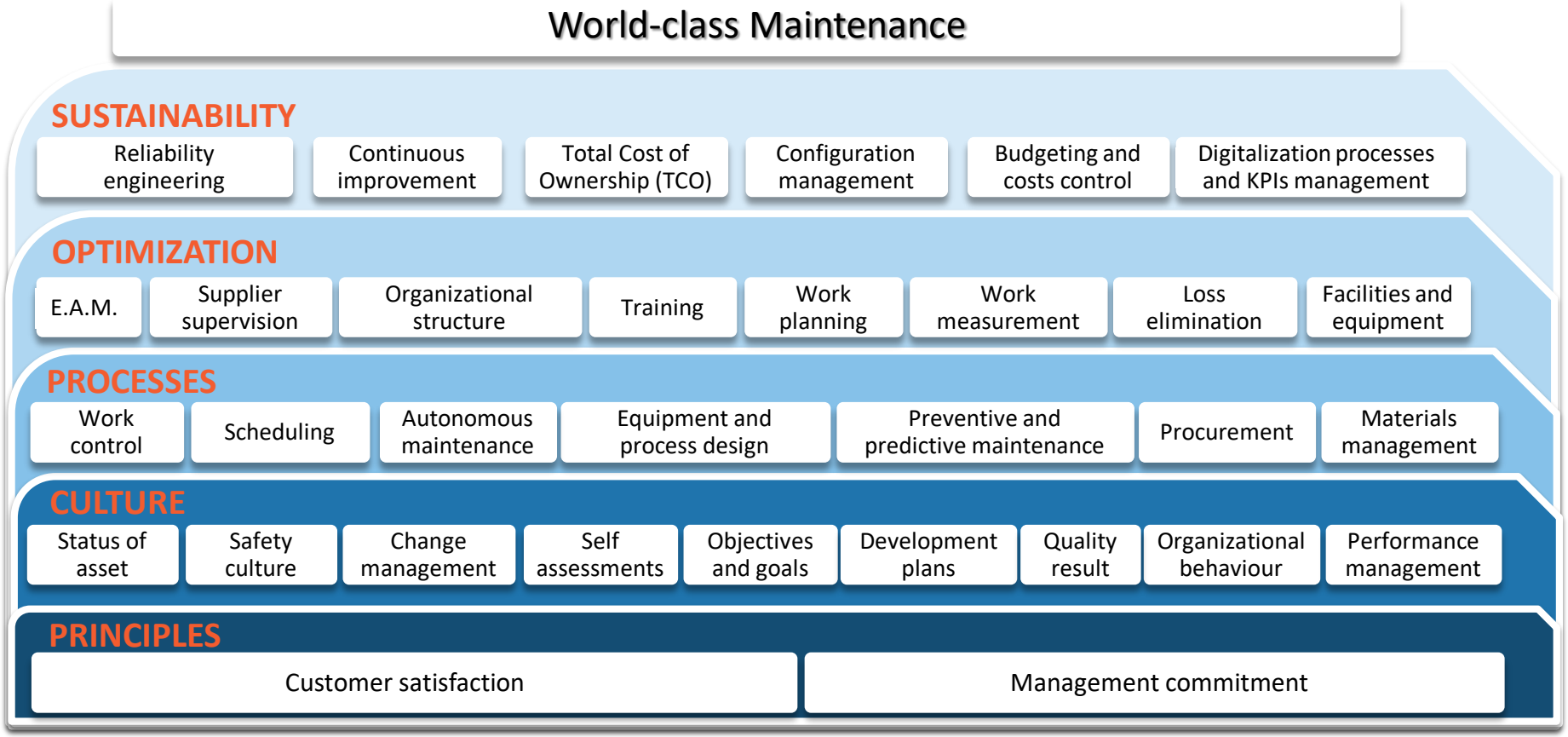
FRAMEWORK MAP AND AT4S2 PLATFORM



A world-class maintenance system (WMS) refers to the best practices in maintenance that are followed and adopted by various organizations to transform themselves to be a 'world-class manufacturer'.

World-class Maintenance

BUILDING THE WAY

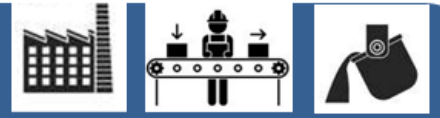


World-class Maintenance

BUILDING THE WAY

PRODUCTIVITY

- Maintenance cost / production (€/ton)
- Downtime (%)
- Performance (%)
- Quality result (%)



Area – Process – Production line, Machine

PEOPLE

- Training hours
- Overtime
- People evaluation

RELIABILITY

- Reliability Performance Indicator (RPI)
- Mean time between failures (MTBF)
- Mean time to repair (MTTR)
- Maintenance schedule compliance

EFFICIENCY

- Planned maintenance on Total
- Planned maintenance compliance
- Total Maintenance costs
- Energy efficiency savings

WAREHOUSE

- Yearly stock value (YSV)
- Inventory rotation index (IRI)
- Safety stock defined on total spare

SAFETY

- Global safety indexes
- Nr. preventive inspections
- Nr. unsafe conditions
- Mean time action follow-up

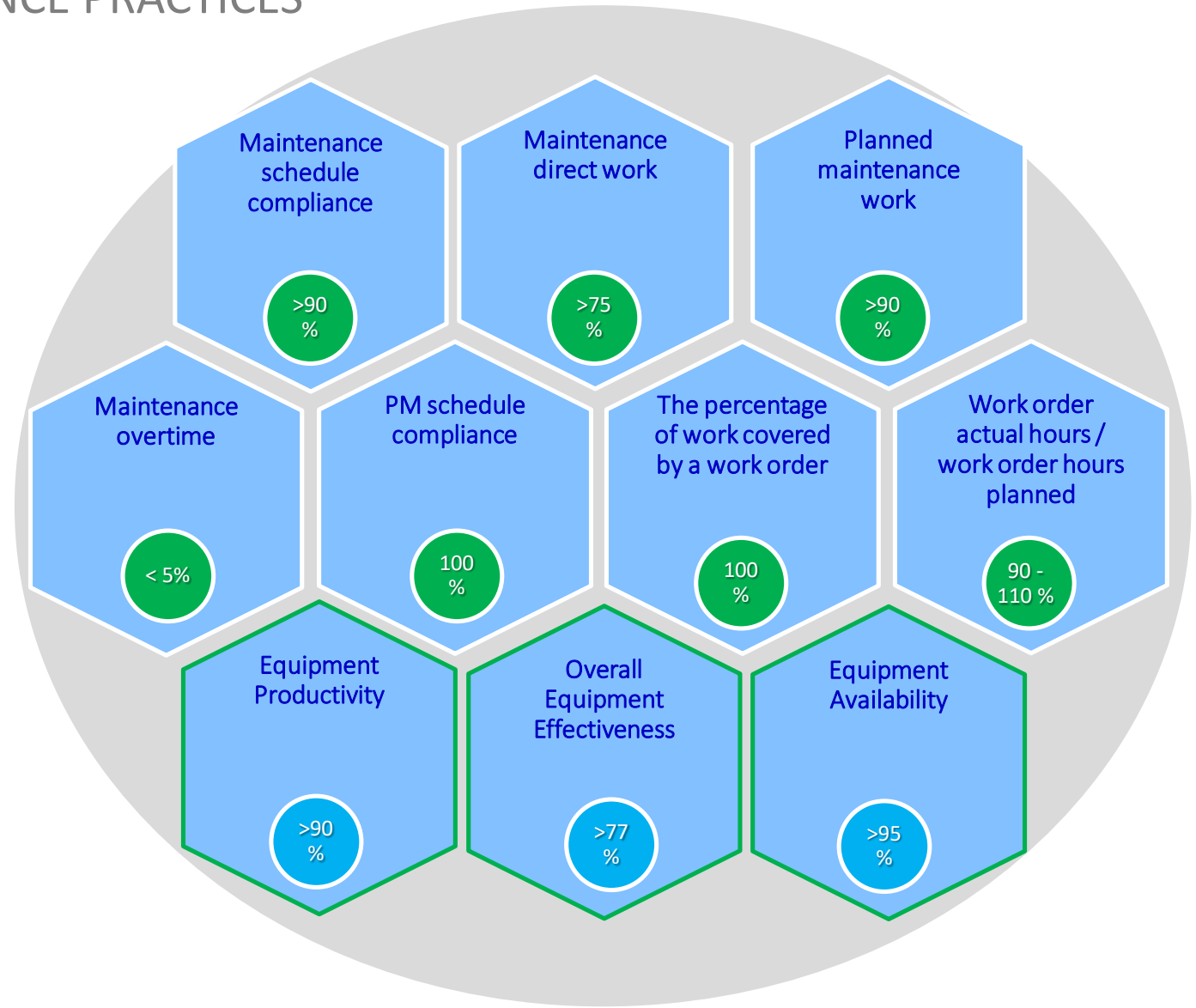
SUSTAINABILITY

- Law base maintenance compliance
- PM on time compliance
- Customer satisfaction
- Training hours

*According to **BS EN 15341**: Maintenance key performance indicators*

World-class Maintenance benchmark

BEST MAINTENANCE PRACTICES

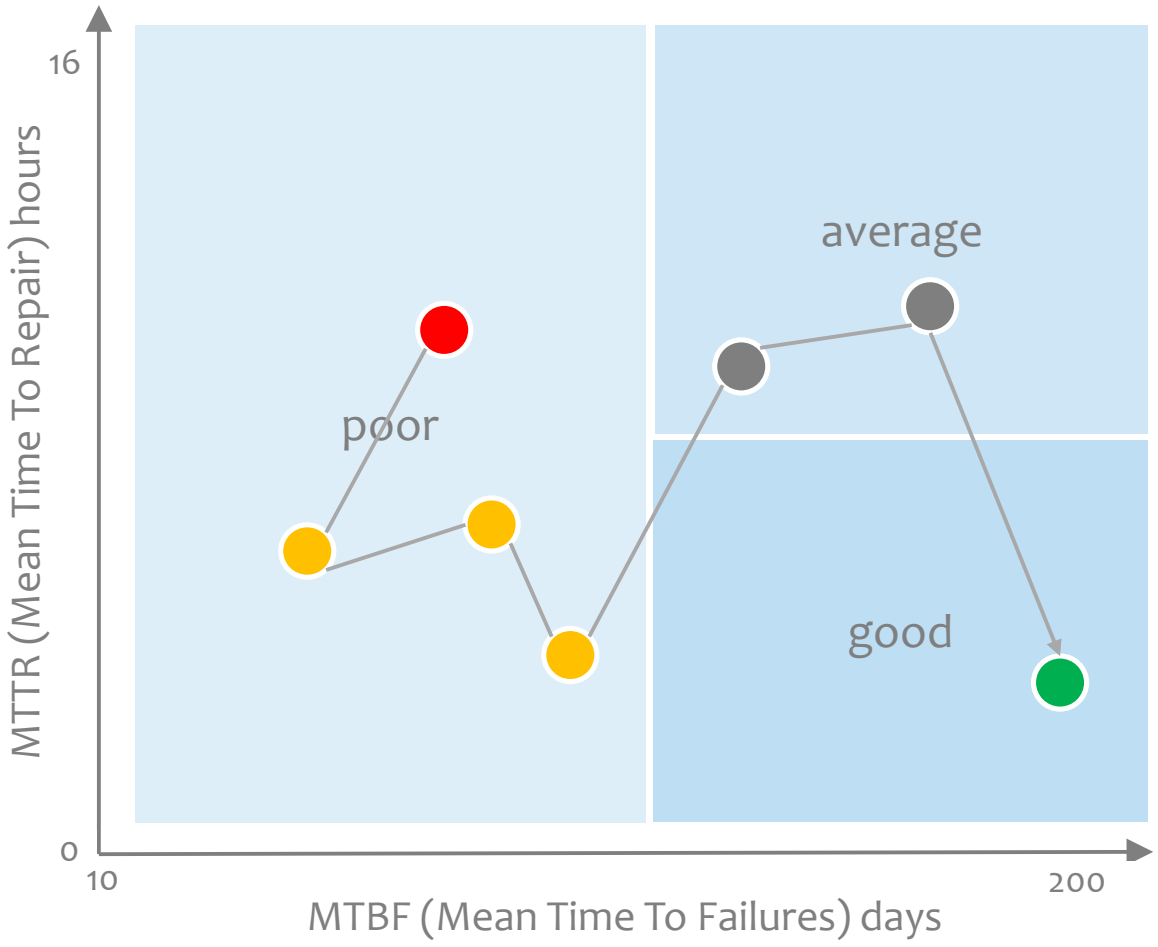


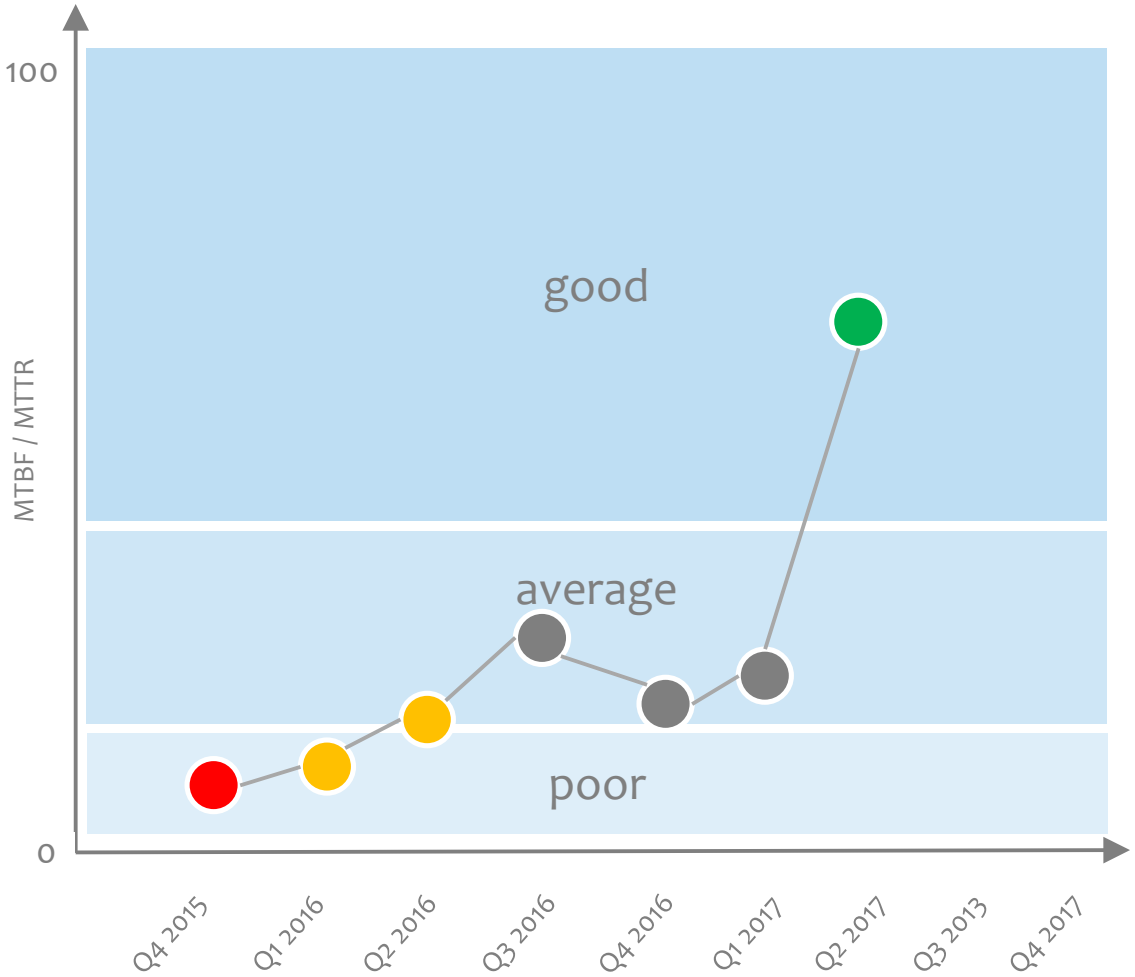
World-class Maintenance benchmark

BEST MAINTENANCE PRACTICES

World-class Maintenance benchmark

AVAILABILITY INDEX





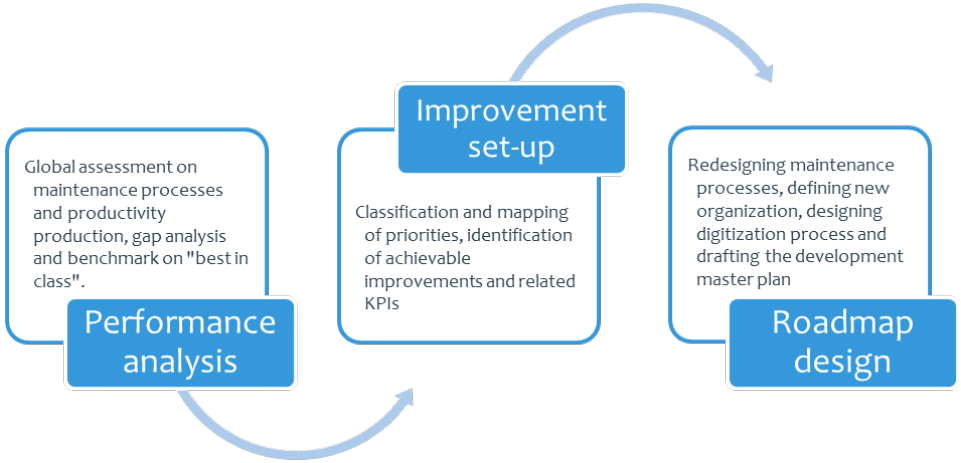
AT_4 Smart Services - strategic support for reliability and results

Performance Assessment

GAP ANALYSIS AND STRATEGY DESIGN

The performance analysis and evaluation is the main activity identifying the gaps with reference to the **"Maintenance Best Practices – World class Maintenance"**.

Through in-depth analysis of: current status of the maintenance's organization, people skills, maintenance services, tools and best practices, KPIs and budgeting, break-down and failures, continuous improvements process management, overall efficiency results of the productivity and reliability, it is possible to have a clear vision to build the right set-up of the improvement phase for the best in class implementations.



1. Asset Management Strategy
2. Computerized Maintenance Management System
3. Human Resources Management
4. Material Management
5. Performance Management
6. Planning & Scheduling
7. Reliability Culture
8. Reliability Engineering
9. Work Execution
10. Work Management
11. Safety
12. Qualification of Maintenance personnel

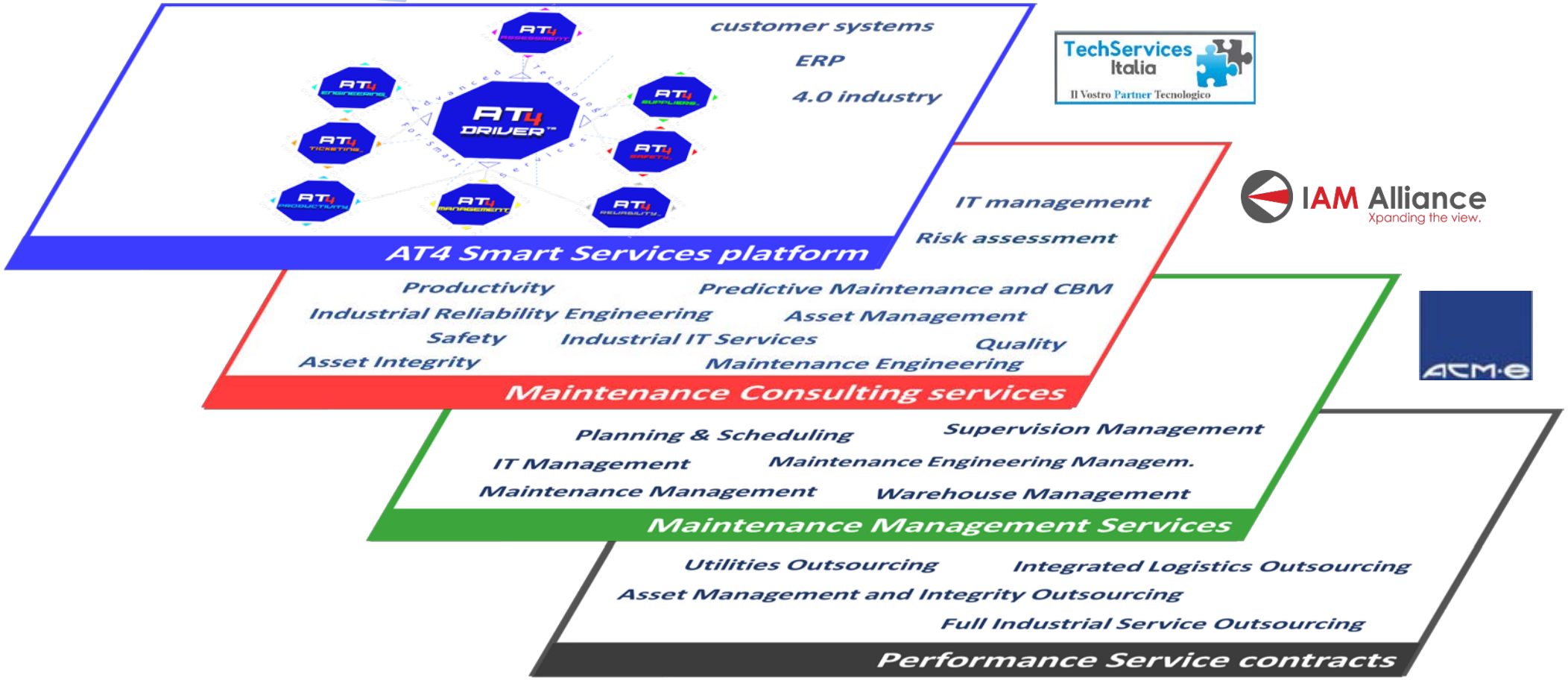
*According to **EFNS** European Federation of National Maintenance Societies, **UNI EN 15628:** "Maintenance – Qualification of Maintenance personnel" and **ISO 55000:** Asset management - Overview, principles and terminology*

Services roadmap

DRAWING THE ROADMAP

AT4S² is a scalable and configurable digital platform to facilitate the best practices of maintenance and the management of all Service models:

1. AMC - Maintenance Consulting services
2. AMM - Maintenance Management activities
3. APS - Performance Service contracts



OUR CORE VALUES

Innovation

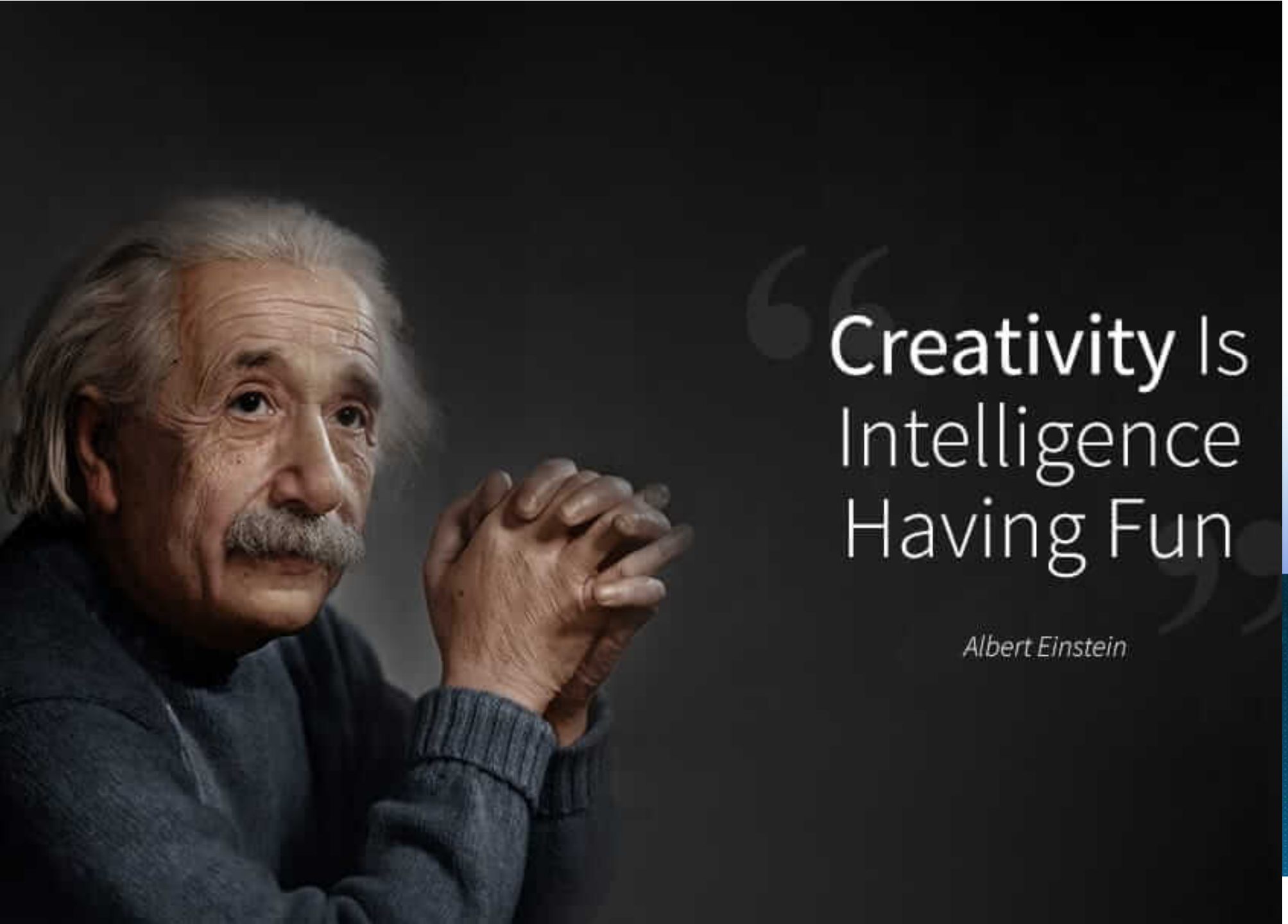
Through our commitment to continuously innovate, we unlock a new value every day.

Professionalism

We know how to do our job and we are fearless in pursuit of reaching your goals.

Client Satisfaction

The reason we exist is the Client and the satisfaction of its needs.



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SCAN HERE!

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