EFFECTIVE MAINTENANCE
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**PRODUCTS AND SOLUTIONS
FOR MODERN INDUSTRIAL ENVIRONMENTS**

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RS

THERE IS A REVOLUTION TAKING PLACE ON PRODUCTION LINES!

9 Innovative technologies for production line maintenance

Industries are increasingly choosing to using digital solutions. Many of the technologies installed on production lines provide operators with reliable information that improves efficiency. These technology advancements are revolutionizing activities in maintenance as they provide tools which limit the number of repairs or preventive measures and lead to planned maintenance.

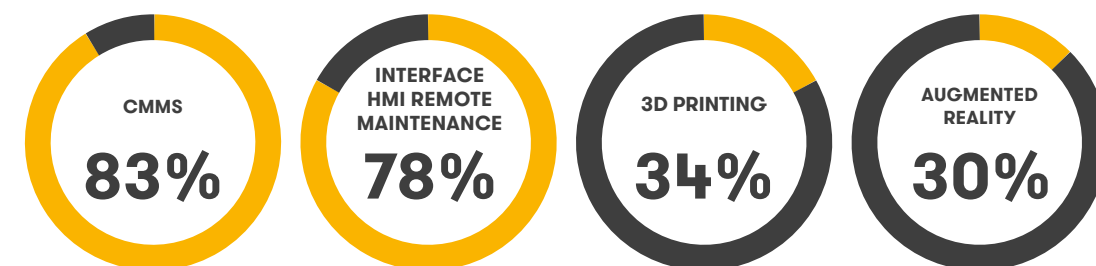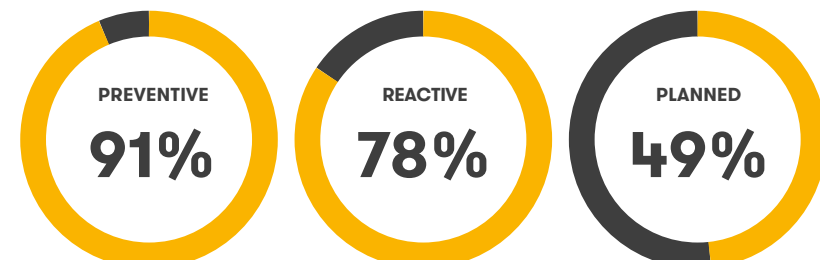| REACTIVE	PREVENTIVE	PLANNED
Intervention in case of the occurrence of a fault	Intervention according to regular & routined schedules	Early intervention according to the analysis of sensor data

Many companies say that they already use some of these new technologies:

CMMS 83%

INTERFACE HMI REMOTE MAINTENANCE 78%

3D PRINTING 34%

AUGMENTED REALITY 30%

What is the progress of migration towards planned maintenance?

Progress is slower than anticipated. 32% of companies gave two reasons: Return on investment can take up to 5 years and the lack of qualified employees.
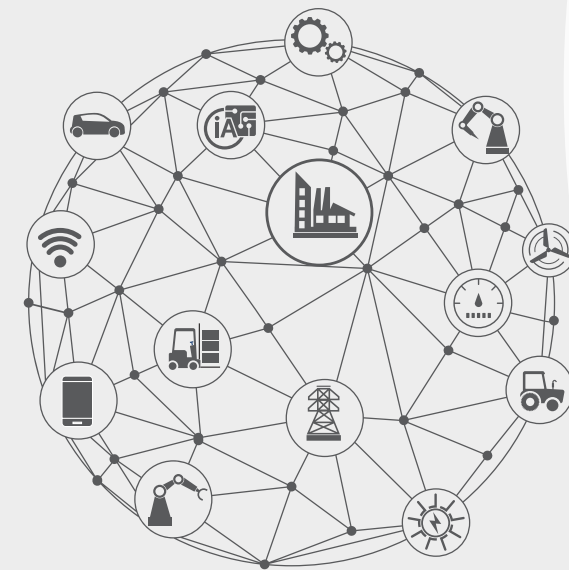
PREVENTIVE 91%

REACTIVE 78%

PLANNED 49%

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1 AI - ARTIFICIAL INTELLIGENCE

AI is becoming a more integral part of production lines. The algorithms enable planned maintenance, by analysing the data streams transmitted by various types of sensors. It is able to predict failures before they actually happen.

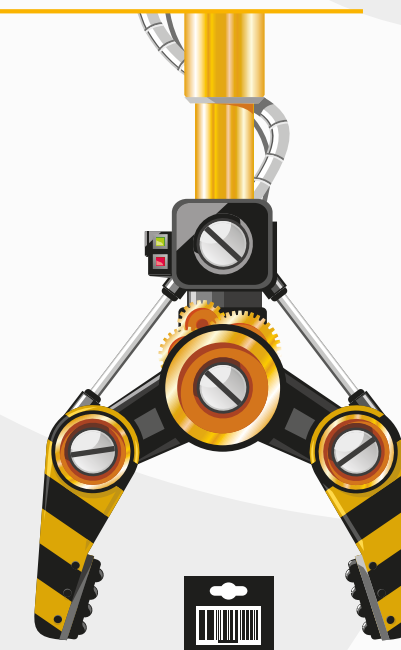**It also plays a significant role in process improvement production.**

2 IOT - INTERNET OF THINGS

IoT, is usually associated with the world of gadgets, but is now being used more frequently in the industrial sector, especially on production lines. Ensures efficient communication protocols with low energy consumption, enabling the transfer of data streams to business intelligence systems.
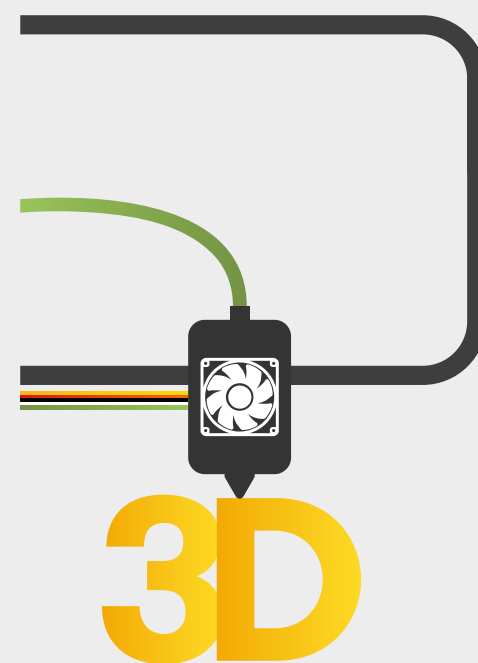
3 COBOTS - ROBOTS CO-OPERATING

Production robots usually work independently and in isolation. The current change sees robots coming out of isolation and starting to work with the operators. They do well with tasks that are difficult or impossible for humans to perform.

4 3D PRINTING IN EARLY PRODUCTION

3D printing is now used in 90% of prototyping. Despite many limitations (speed, productivity and the cost of machines), 3D printing is gaining more and more interest in various industries due to the possibility of producing lightweight parts and significantly reducing material waste.
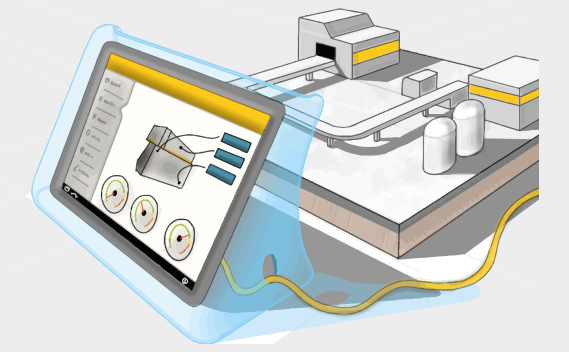
5 AUGMENTED REALITY

As with cobots, augmented reality - AR (or virtual reality - VR) will be gradually used in industry to provide visual support for operators to reduce errors in production, provide training assistance and facilitate quality control.

6 HMI - HUMAN MACHINE INTERFACES

The integration of the internet with a factory makes it possible for remote monitoring and to display the parameters of production lines. HMI interface in an industrial 4.0 environment makes it possible to display the efficiency of production lines in real time for forwarding information to operators.

7 CMMS - COMPUTERISED MAINTENANCE MANAGEMENT SOFTWARE

This software platform enables complete management of machines, reactive maintenance analysis, organisation preventive actions, goods management and purchasing as well as reporting via dashboards and statistics. It is linked to and provides AI access to forecast management.

8 BIM - BUILDING INFORMATION MODELING

building information modeling

3D modeling of production chains provides invaluable visual help for maintence department employees. Thanks to data from IoT sensors BIM modeling provides an immediate preview of the the condition of the various elements of the production chain.

9 "BIG DATA" AND CLOUD COMPUTING

The above digital technologies generate a huge amount of data. To ensure the efficient operation of factories of the future the immediate access to real time data is required. This is possible thanks to "big data "and cloud computing.

REACTIVE MAINTENANCE

Have you detected a machine defect, which needs immediate repair to avoid a production standstill?

In reactive maintenance, a fault analysis is carried out after a maulfunction has occurred. This can result in downtime because the problem may not be detected immediately or spare parts may take a long time to order. No piece of equipment is immune to the random failure of a component.

The industry rule of thumb says to aim for only 20% of your maintenance time to be devoted to reactive maintenance. In reality, teams spend still somewhere between 34 - 45% of their time on reactive maintenance.

Electrical tapes

Electrical tapes are abrasion resistant, flame retardant and help provide protection against dust, dirt, moisture, acids, UV radiation and solvents. Choose from our wide range depending on the application they are required for.

Personal Protective Equipments

PPE (personal protective equipment) is designed to ensure the safety of you and others using either protective materials or disposable attire, depending on the application. Our range includes clothing, footwear and equipment from trusted brands.

Cables and wires

At RS we offer a high-quality extensive range of cables and wires such as control and instrumentation cable, ethernet cable and equipment wire. We stock all the accessories you will need from heat shrink to cable ties and other cable protection products.

Tools and tool kits

Whether you're looking for a tool chest, box or cabinet, we have a wide selection of tool storage to meet your needs including maintenance toolkits. These kits are essential in reactive maintenance processes, where you have to act fast.

Pneumatics, hydraulics and power transmission

For all aspects of power transmission, RS Components provides pneumatic, hydraulic and electrical solutions. Whether its the components you need for creating and maintaining a purpose-built system, RS Components offers product ranges from leading brands.

3D printers and printing materials

3D Printers are revolutionizing manufacturing processes, providing technology solutions for rapid prototyping and additive manufacturing. Able to quickly realize digital designs into 3D models, this printing technology can also be used in maintenance programs.

PLANNED MAINTENANCE

Do you want to prevent age-related failures of parts and components?

Routine checks, machine measurements and adjustments, replacement of oil and lubricants, and of components all belong to a scheduled maintenance protocoll.

In order to avoid downtimes, machines are maintained and parts are replaced as a prevention on the basis of fixed intervals. In order to optimise this procedure, corresponding data based on experience is required so that the maintenance is not carried out too late, but also not much too early.

Currently, this is the most widely used method that companies rely on. Still this method requires regular shutdowns and 30% of these scheduled interventions are not necessary.

INTERACTIVE PDF

Label printers and label markers

Cable and wire labeling is critical in the identification, assembly and repair of electrical control panels, wire harnesses, and data/telecommunications systems. It is an upfront cost that saves time and labor expenses when repairs need to occur to the systems you work on.

Soldering stations

Soldering irons are ideal for soldering together transistor leads, wires or pads on printed circuit boards (PCBs). Soldering stations are frequently used for production work in Electronic Assembly, for conducting repairs and completing installations.

HVAC and thermal management

Over-heating is one of the primary causes of malfunction of modern devices. At RS you find everything you need to control the temperature and quality of the air within a building or vehicle.

DIN-rail power supplies

DIN rail power supplies have become the standard for a reliable and efficient power supply. They are an integral part of numerous application areas – such as mechanical engineering, industrial automation, logistics, automotive industry, process industry and many more.

Digital multimeters

A diigital multimeter is a great tool for testing, diagnosing and troubleshooting electrical circuits, components and devices. We offer the latest high-quality multimeters and multimeter accessories. Our product range supported with technical information to ensure you choose the right solution.

PLCs, HMIs and industrial computing

PLCs monitor the performance of a machine, thus making managing processes more efficient. HMIs, on the other hand, work as a communication tool between the system and the operator. They may include information like temperature, pressure, process steps, and material counts.

PREDICTIVE MAINTENANCE

Would you like a long-term, up-to-date and sustainable solution, which can save you money?

We are entering the age of smart factories, where maintenance is data-driven. Predictive maintenance uses historical and real-time data from various parts of your operation to anticipate problems before they happen. The Internet of Things (IoT) and integrated systems allow for different assets and systems to connect, work together, share, analyze, and action data. Depending on the complexity of the sensor network, the analysis can be also supported by artificial intelligence.

Predictive maintenance programs have been shown to lead to a 25% - 30% reduction in maintenance costs, a 70% - 75% decrease of breakdowns and a 35% - 45% reduction in downtime.

Thermal imaging

Monitoring equipment performance with thermal imaging cameras can reduce the likelihood of unplanned downtime due to equipment failure. Thermal imaging is great for spotting a lack of uniformity in equipment by indicating hot and cold spots in surface temperature.

Timer relays

When it comes to controlling simple time sequences, timer relays are the cost-effective alternative to a PLC. Choose the appropriate timer relay for your application from our wide offer.

Environmental measurement

High precision environmental measurement tools give you the ability to comprehensively monitor ambient conditions. We offer an advanced selection of accurate, reliable environmental measurement kits, meters, devices and accessories.

Proximity sensors

Proximity sensors are designed to detect the presence and proximity of an object in range without any physical contact, using sound, light, infrared or electromagnetic fields. Discover our range of inductive, capacitive, infrared and ultrasonic sensors.

Data aquisition

Browse our range of data acquisition products including chart meters and data logging technology from established brands such as Keysight Technologies, Lascar, ABB, Pico Technology and Gemini.

LoRa® devices

LoRaWAN® is a LPWAN protocol designed to connect battery operated 'things' to the internet in regional, national or global networks - high performance, low power and affordable connectivity.
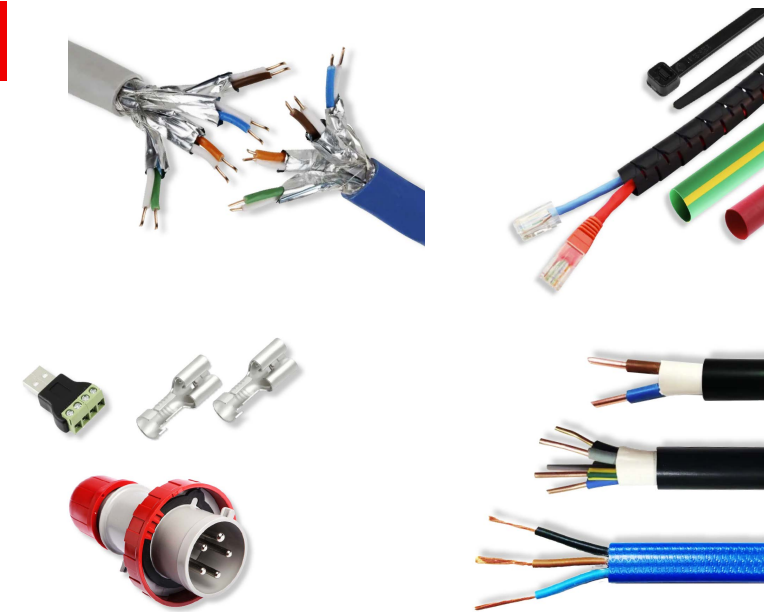
RS PRO Maintenance Solutions

Our in-house brand, RS PRO offers a wide range of maintenance products whether you need them for reactive, planned or predictive maintenance processes. The RS PRO products are audited against demanding international standards, inspected for durability and consistency and tested by leading engineers. Choose effective maintenance solutions from the RS PRO range and save up to 30% against branded alternatives.

RS PRO Test & Measurement

From multimeters, thermometers, data loggers and environmental test & measurement - the RS PRO range has been selected to provide high-quality and accuracy.

RS PRO Wiring & Connectivity

RS PRO provide an extensive selection of cables, connectors and accessories for every wiring and connectivity application and environment. Products selected are high quality, professionally approved to ensure reliability.

RS PRO Sensor Technology

A wide range of different sensor technologies, from inductive to capacitive, from rotary encoders to load cells. For all applications with the RS PRO seal of approval for quality you can trust.

RS PRO Toolkits

Whether you're looking for a tool chest, box or cabinet, we have a wide selection of tool storage and kits from RS PRO to meet your needs including PC service kits, Engineers and Electronics kits and maintenance toolkits.
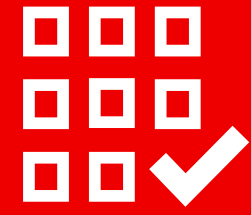
RS PRO Enclosures

Products such as enclosures, general purpose enclosures, server racks and server cabinets protect technical and electrical equipment. Discover the wide range from RS PRO to find what you need.

RS PRO Site Safety

Keep your facilities organised, safe and secure with the RS PRO range of signage, barriers, cones, bump protectors and more.
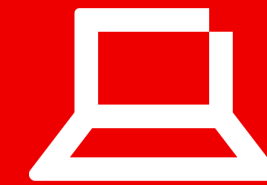
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