



WHAT IS INDUSTRY 4.0?

Industry 4.0 is a radically changed manufacturing method, leading toward fully automated, interconnected processes. Industry 4.0 is an evolutionary development that leads to man-machine interaction for fully automated and interconnected production. As of now, we must think in terms of greater efficiency, flexibility, productivity, connectivity and industrial safety. Production shall be optimized via virtualization of all processes, to curb errors and waste while anticipating issue of correct directions to operators.















Industry 4.0 aims to create “smarter factories” with the following hallmark characteristics:
more efficient use of resources (machines that predict breakdowns, algorithms for determination of preventive maintenance interventions against unexpected or sudden machine/production-line downtimes, energy-saving measures).

greater flexibility and adaptability (logistical processes and production lines capable of automatically reacting to unexpected variations in productivity levels).

simplified configurability (to adapt to new production needs based on external inputs, such as new marketplace needs, and on internal inputs based on a link to corporate functions).

WHY OUR MACHINES CAN BE CONSIDERED INDUSTRY 4.0 READY

We have been manufacturing automatic wrapping and packaging machines for more than two decades. We know how very important it is to be able to reactively respond to customer-base demands and marketplace openings. The following are the minimum requirements that must be met according to current regulations for machines to be defined “Industry 4.0 Ready”, accompanied by details on how MICROLINE meets these requirements

-  Control by means of CNC and/or PLC and/or PC and/or microprocessor or more complex devices (DCS Distributed Control System).
 -  All machines manufactured by MICROLINE are PLC-controlled
-  Interconnection with factory IT systems with remote uploading of instructions and/or part programs.
 -  All machines manufactured by MICROLINE can interconnect with the company system since open, secure information exchange is enabled via a connection based on documented, publicly available and internationally recognised (TCP/IP) specifications.
 -  All machines manufactured by MICROLINE are univocally identifiable, so that the source of information is identified, thereby ensuring data security, via use of internationally recognised standards (IP address).
 -  It is possible to interact with machines manufactured by MICROLINE by means of specific software in order to change parameters and/or the entire working program.
-  Automated integration with the factory's logistic system or with the supply network and/or with other production cycle machines
 -  Integration of all machines manufactured by MICROLINE and other production cycle machines via a type M2M (Machine to Machine) communication logic with another machine or with a downstream or upstream unit, for the purpose of information integration for exchanges of data and/or signals.
 -  The machines manufactured by MICROLINE can be interlocked upstream or downstream by an automated or semi-automated handling system (e.g. roller conveyors or robots) which is in turn integrated with another factory element.
-  Simple, intuitive human-machine interface
 -  The machines manufactured by MICROLINE all feature human-machine interface (HMI), enabling monitoring and control of the machine and/or unit. The interfaces are designed to be user-friendly and intuitive.
-  Conformity with the latest industrial safety, health and hygiene parameters



MICROLINE s.r.l. Cap. Soc. € 30.000,00 i.v.

P.I. 02023401207 Iscrizione R.I. n. 10527 - R.E.A. n. 407690
Via Emilia, 33/C 40011 Anzola dell'Emilia (BO) Italy

☎ +39/0516166696 – 📠 +39/0516188252

✉ info@microlinesrl.it - 🌐 www.microlinesrl.it



The machines manufactured by MICROLINE all conform to industrial safety, health and hygiene requirements as set forth in current regulations.


 Systems for remote maintenance and/or remote diagnosis and/or remote-mode control.



The machines manufactured by MICROLINE can all be fitted with a specific unit (MICROLINE Remote Assistance Unit V2.0) that enables the operator to restore and/or conduct maintenance work on the machine, unit or components of the same in remote mode.



For all machines manufactured by MICROLINE, remote-mode control operations (monitoring and/or control) are enabled by means of specific software.

 Continuous monitoring of working conditions and process parameters by means of specific sets of sensors and adaptivity to downtimes.



specific sensors are adopted, depending on the typology of the machinery manufactured by MICROLINE. The sensors are used to monitor working conditions in order to, in the event, adapt the mode of functioning to downtimes (e.g. sensors controlling air pressure in the pneumatic system which can stop the machinery if values are incompatible with normal functioning; or sensors that check the level for wrapping material etc. etc.).

WHICH MICROLINE MACHINES CAN BE CONSIDERED INDUSTRY 4.0?

The bundling machines line (ML700; ML800; ML1500); the shrink-wrapping machines line (AL80 in its various versions); the flow wrap machines line (FloW Wrap 1000 in its various versions); the side-loading case-packers line (ROM600; ROM800); and the top-loading case-packers line (RVM600; RVM800).

WHAT DO YOU NEED TO BE AN INDUSTRY 4.0 COMPANY?

If you want to gain Industry 4.0 status, you'll need more than just Industry 4.0 Ready machinery.

Your company must be able to manage the increased volume of data and must have adequate connectivity to ensure improved digital-instructions transfer and new human-machine interface solutions.

THE DIRECTION TAKEN BY ITALY – THE BENEFITS OF PURCHASING INDUSTRY 4.0 MACHINERY-

Italy has a national Industry 4.0 plan, included in the national budget act 2017 (Italian Law no. 232). In brief, the law foresees measures, incentives and investments for digitalizing all stages of industrial production in Italy.

The two key measures are as follows:

- “Iperammortamento” (hyper-depreciation): 250% overvaluation of investments in new tangible assets, devices and technologies purchased or acquired under a leasing agreement.
- “Superammortamento” (super-depreciation): 140% overvaluation of investments in new tangible assets purchased or acquired under a leasing agreement.

Beneficiaries of “iperammortamento” shall also be able to take advantage of the rebates for investments in intangible business-operating assets (software and IT systems).

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