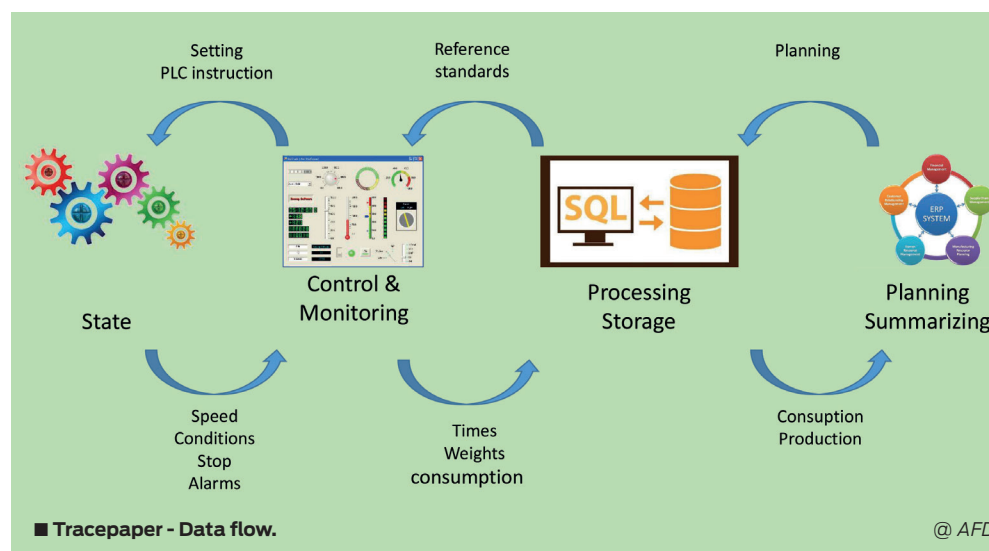# The machines speak:

■ The machine speaking.

Decades have passed since the paper converting machines were moved by a single belt driven by the power of water or the steam of a boiler. Nowadays, the latest generation processors are used that control all the various machine functions in real-time and produce thousands of data every day that often no one takes care of interpreting, processing and using to improve the quantity and quality of production.

by: AFD Antica Fabbrica Digitale Srls

let's listen to them

To date, the management software and those on the machinery have not walked on parallel tracks. While office software followed the development of traditional operating systems with Windows or Unix, the PLCs of the machines developed with proprietary operating systems not suitable for interconnection with traditional systems. This led to the creation of technicians with
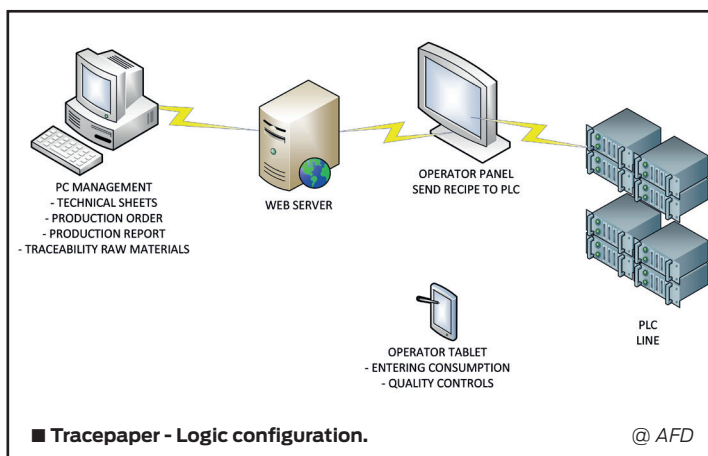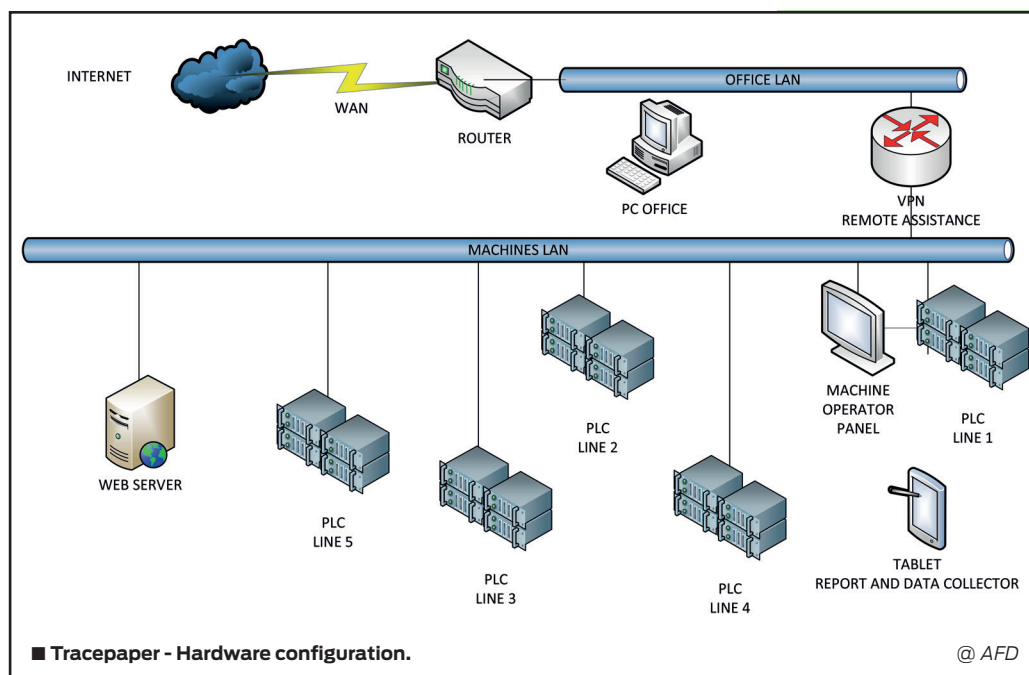
We at **AFD** in collaboration with Infosigi, a company that develops tailor-made MES, have created **PAPERTRACE** a software capable of translating data, which arrive from the machine, into a language understandable for the production, administrative or assistance manager.
In our latest order we connected four machines from different manufacturers, with electronic systems that are also very different from each

Setting PLC instruction — **Reference standards** — **Planning**

State — **Control & Monitoring** — **Processing Storage** — **Planning Summarizing**

Speed Conditions Stop Alarms — **Times Weights consumption** — **Consuption Production**

■ Tracepaper - Data flow.

@ *AFD*

" We are not just a technology supplier but above all, **we listen to and implement the ideas of entrepreneurs** that look ahead "

distinct professional paths that poorly interfaced with each other. It is no coincidence that in many companies you can still see PCs where the operator enters the production data of the machines "by hand", ignoring the thousands of information that the machine could send directly and in real time to the management system.
A picture emerges which reveals the poor functionality of the machines and it is them that complain about it or rather the work-quality relationship.
Lately, however, thanks to tax incentives and the technological development of the electronic devices that are mounted on the machinery, the sensitivity to improve the development of this sector is increasing.

other, all using a server with an MSSQL database that records the data from the machines by making them available to PAPERTRACE and management software. The innovation we made has made it possible for the management system to send the various production orders to the machines and to check their progress.
The recorded data become the machine history and thanks to these it will be possible to:
plan the machine changes taking into account the production times, the orders made, for their better optimization.
Analyze machine downtime to plan preventive maintenance or try to eliminate the various bottlenecks that will be highlighted by the analysis of these data.

■ Tracepaper - Hardware configuration.

@ AFD

AFD Srls

The province of Lucca has been considered as the main European area for the paper industry, and among the more important in the world. The "Paper dust" has entered into all economic sectors of our industrial fabric, as has the story of AFD, which was born out of this dust. We started working at companies that were building machines for processing, when electronics and automation was in its infancy. We saw the first PLC on-board machines, instead of the old relay logic, the programming of the first axis controls and of the first industrial networks. In 1989 we created the first electronic "Pressina", and participated in the Gemini project, the first converting machine with dedicated axis controls and first-generation brushless motors. In 1995 we started to manufacture interfolder machines, that were recognised as the fastest and most productive on the market. In 2007, AFD was born, giving rise to machines such as the **I-Jet500** for industrial roller and interfolding **IMFOLD**. Currently we are working with several transformers around the world. Finally, and the most important thing, we are not just a technology supplier but above all, we listen to and implement the ideas of entrepreneurs that are looking ahead.

■ Tracepaper - Logic configuration.

@ AFD

Calculate the cumulative value of the line efficiency (OEE: performance, availability and pieces produced) in real time. It is also possible with additional software modules (labeling of finished products and raw materials) to automatically manage traceability.
Finally, to make PAPERTRACE independent of the various hardware and software platforms, a simple browser such as Chrome or IE Explorer is used to show the data. The data can then be viewed on tablets, mobile phones or PCs without being tied to any type of hardware.

PAPERTRACE is a flexible software that can be interfaced, with commonly used software tools, with any type of PLC or axis control to always be one step ahead of the competition. ●