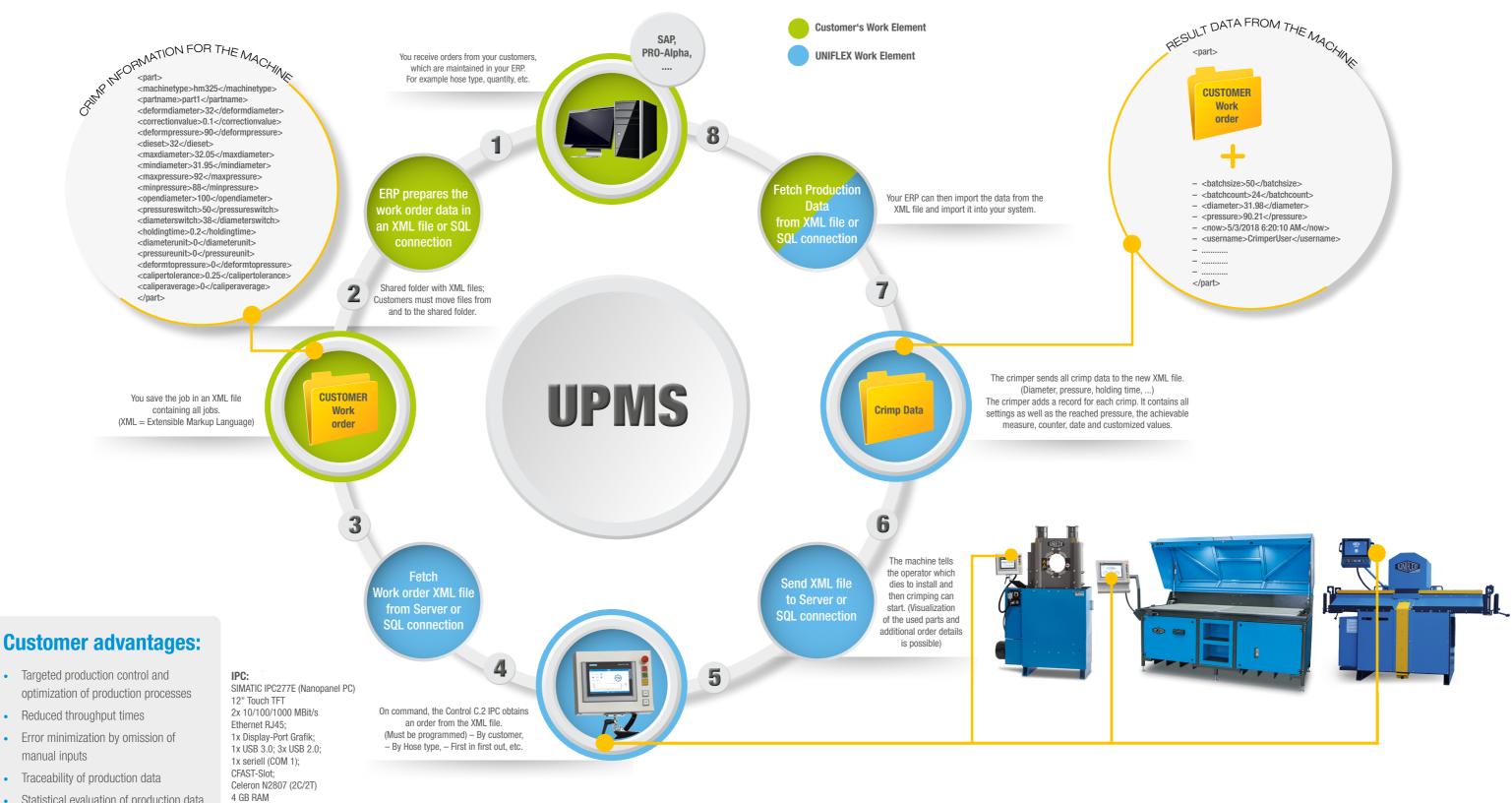**IoT**
**Internet of Things**

UNIFLEX UPMS

# UNIFLEX Paperless Management System (UPMS)

UNIFLEX has developed a complete Paperless Management for easily sending data directly from your ERP to a dashboard.

This allows you to manage all your machines by giving them working orders and retrieving production information from each machine. This gives you the flexibility to organize your production machine by machine (For example: the cutter can cut all hose sizes installed for customers, while at the same time you can decide to crimp according to individual orders and test the kitting order with the test bench.

The System returns all the relevant quality information you need to make sure your product is made to specifications. Stored data can be used not only for traceability but also for analyzing your productivity. This will optimize your production processes, reduce your administrative tasks and improve your quality control.

## CRIMP INFORMATION FOR THE MACHINE

```
<part>
  <machinetype>hm325</machinetype>
  <partname>part1</partname>
  <deformdiameter>32</deformdiameter>
  <correctionvalue>0.1</correctionvalue>
  <deformpressure>90</deformpressure>
  <dieset>32</dieset>
  <maxdiameter>32.05</maxdiameter>
  <mindiameter>31.95</mindiameter>
  <maxpressure>92</maxpressure>
  <minpressure>88</minpressure>
  <opendiameter>100</opendiameter>
  <pressureswitch>50</pressureswitch>
  <diameterswitch>38</diameterswitch>
  <holdingtime>0.2</holdingtime>
  <diameterunit>0</diameterunit>
  <pressureunit>0</pressureunit>
  <deformtopressure>0</deformtopressure>
  <calipertolerance>0.25</calipertolerance>
  <caliperaverage>0</caliperaverage>
</part>
```

**Customer's Work Element**
**UNIFLEX Work Element**

**SAP, PRO-Alpha, ....**

## RESULT DATA FROM THE MACHINE

<part>

**CUSTOMER Work order**

+

```
– <batchsize>50</batchsize>
– <batchcount>24</batchcount>
– <diameter>31.98</diameter>
– <pressure>90.21</pressure>
– <now>5/3/2018 6:20:10 AM</now>
– <username>CrimperUser</username>
– ............
– ............
– ............
</part>
```

**1** You receive orders from your customers, which are maintained in your ERP. For example hose type, quantity, etc.

**ERP prepares the work order data in an XML file or SQL connection**

**8** **Fetch Production Data from XML file or SQL connection** — Your ERP can then import the data from the XML file and import it into your system.

**2** Shared folder with XML files; Customers must move files from and to the shared folder.

You save the job in an XML file containing all jobs. (XML = Extensible Markup Language)

**CUSTOMER Work order**

# UPMS

**Crimp Data**

**7** The crimper sends all crimp data to the new XML file. (Diameter, pressure, holding time, ...) The crimper adds a record for each crimp. It contains all settings as well as the reached pressure, the achievable measure, counter, date and customized values.

**3**

**6**

**Fetch Work order XML file from Server or SQL connection**

**Send XML file to Server or SQL connection**

The machine tells the operator which dies to install and then crimping can start. (Visualization of the used parts and additional order details is possible)

**4** On command, the Control C.2 IPC obtains an order from the XML file. (Must be programmed) – By customer, – By Hose type, – First in first out, etc.

**5**

## Customer advantages:

- Targeted production control and optimization of production processes
- Reduced throughput times
- Error minimization by omission of manual inputs
- Traceability of production data
- Statistical evaluation of production data

**IPC:**
SIMATIC IPC277E (Nanopanel PC)
12" Touch TFT
2x 10/100/1000 MBit/s
Ethernet RJ45;
1x Display-Port Grafik;
1x USB 3.0; 3x USB 2.0;
1x seriell (COM 1);
CFAST-Slot;
Celeron N2807 (2C/2T)
4 GB RAM
Windows 10