

77 EUROMAP - Fact Sheet

European Plastics and Rubber Machinery

EUROMAP 77 is the new industry standard for the exchange of data between injection moulding machines and central computers or manufacturing execution systems (MES), which is ready for Industry 4.0. It has been released on 4 May 2018 and is available for free at www.euromap.org.

OPC UA as the basis

OPC Unified Architecture (OPC UA) is the interoperability standard for the secure and reliable exchange of data in the field of industrial automation of several industries. The OPC Foundation, a non-profit industry association, is responsible for its development. Since it is platform independent and ensures the seamless flow of information among multi-vendor devices, it serves as an ideal basis for EUROMAP 77.

Functionality provided by EUROMAP 77

With EUROMAP 77, machines from different manufacturers can be easily connected within one network for production data acquisition. This allows monitoring of the process quality, calculation of key performance indicators like Overall Equipment Effectiveness (OEE) and enables traceability of the products. In addition, functions for a central job management and for transferring whole datasets for machine settings have been included.

The existing EUROMAP 63 served as the basis, but EUROMAP 77 not only uses state of the art communication technology, it also extends the functionality with additional information and interaction possibilities. The modular architecture allows for covering a broad range of applications from standard machines to machines with several moulds and injection units.

Embedded in a framework model for plastics and rubber machinery

The developers of EUROMAP 77 set a high value on a good and sustainable structure of the information model. Therefore, reusable information blocks (e.g. general information on the machines, such as manufacturer, model, serial number and their machine status) are defined in EUROMAP 83 to avoid duplicating work and, most of all, inconsistencies. All future models of plastics and rubber machinery will build on it and specify the generic definitions for individual applications and machine combinations.

Developed by the industry for the industry

EUROMAP 77 was developed by experts from the industry in cooperation with the OPC Foundation and supported by ascolab.

Injection moulding machine manufacturers:

- ARBURG GmbH + Co KG
- ENGEL AUSTRIA GmbH
- FANUC Germany/EUROPE
- Ferromatik Milacron GmbH
- KraussMaffei Technologies GmbH
- NEGRI BOSSI S.p.a.
- Netstal-Maschinen AG
- Sumitomo (SHI) Demag Plastics Machinery GmbH
- Wittmann Battenfeld GmbH

Controller manufacturers:

- B&R Industrial Automation GmbH
- Beckhoff Automation GmbH & Co. KG

MES suppliers:

- ARBURG GmbH + Co KG
- bfa solutions ltd
- BMS bvba
- INCLUDIS GmbH
- inray Industriesoftware GmbH
- MPDV Mikrolab GmbH
- ProSeS BDE
- RJG Germany
- Steinberger Software
- Stöckeler Software Services e.U.
- TIG – Technische Informationssysteme Ges.m.b.H.

User:

- LEGO Systems A/S

Proven by live demonstration at K 2016 and two plugfests

A small part of EUROMAP 77 was already demonstrated live at K 2016 where live data from different machines running in different halls at manufacturers' booths was transferred via OPC UA for visualization in a central computer. In January and April 2018, the working group members met for two so called "plugfests", which were very successful. They thoroughly tested prototype implementations in multiple server/client combinations.

Next steps

The specification with the documentation and computer readable files is available free of charge at www.euromap.org/euromap77. The manufacturers are working intensively on making the implementations ready for serial production. In the meantime, EUROMAP is working on further interfaces e.g. between injection moulding machines and robots or peripheral devices. For temperature control devices, a Release Candidate has already been published. However, also other machine types like extruders and blow moulding machines are in EUROMAP's focus. The current projects are listed under www.euromap.org/i40.

Contact

Dr Harald Weber
Technical Commission

EUROMAP
c/o VDMA Plastics and Rubber Machinery
Lyoner Straße 18, 60528 Frankfurt, Germany

Phone: +49 69 6603-1833
e-Mail: harald.weber@vdma.org
Internet: www.euromap.org



About EUROMAP

EUROMAP is the European umbrella association of plastics and rubber machinery. The association stands for a production value of around 13.5 billion euros – a 40 percent share of the worldwide production volume. Almost 75 percent of the European made production is shipped to worldwide destinations. At an export volume of 10.0 billion euros EUROMAP's 1,000 machinery manufacturers are market leaders: Almost every second machine shipped to a customer is supplied by a EUROMAP member.