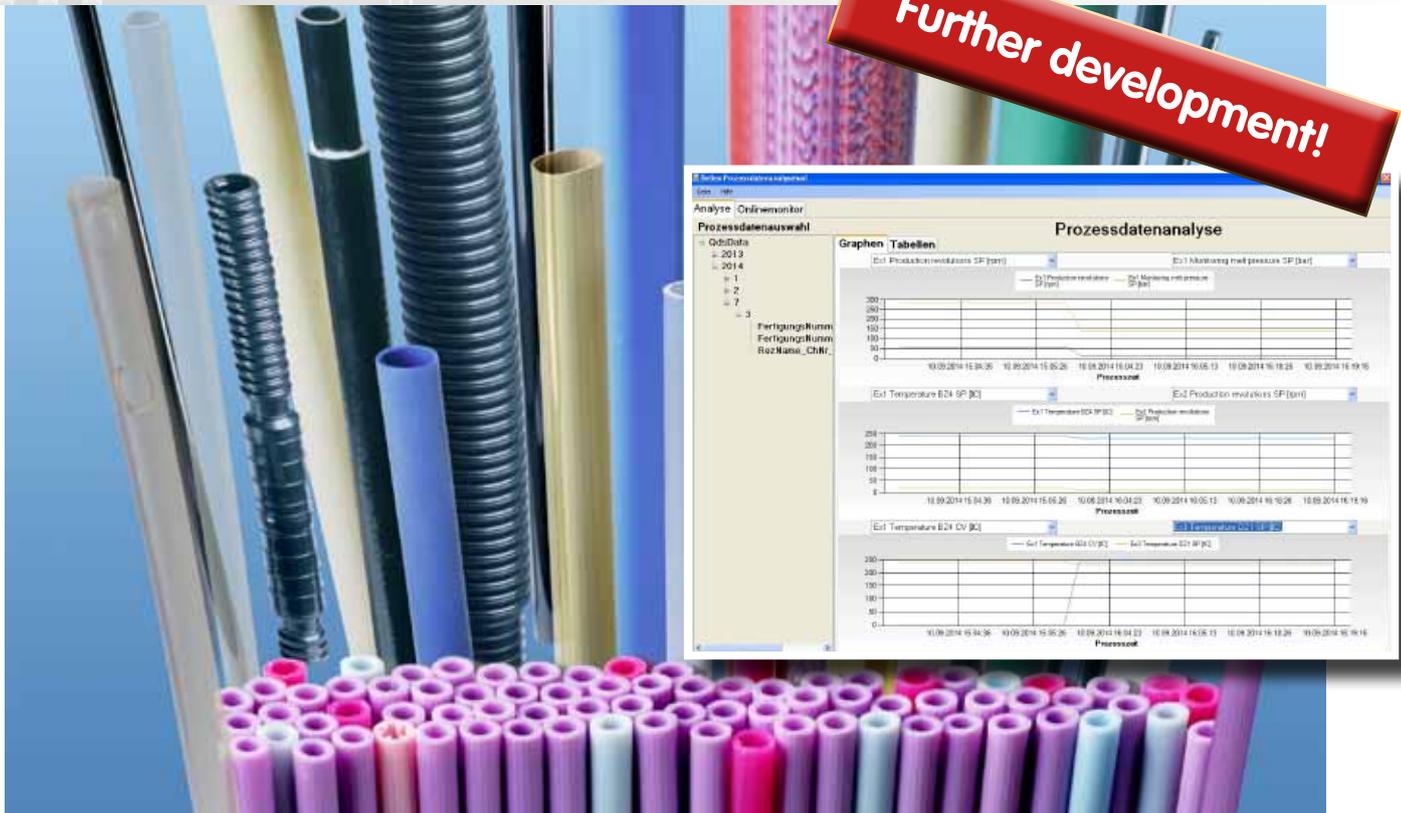


## Recording, storing and analysing process data



### Process data collection – why?

There is a clear trend towards improved and more complete **collection of all the product and process data produced in the extrusion process.**

Almost all new systems today are fitted with a user interface that allows the operator to also output **process data that has not been previously visualised, e.g.:**

- Temperature changes in the extruder heating
- Pressure changes in the vacuum tank as trend curve in real time

Clients are increasingly requesting the provision of all relevant data in a format that allows further processing and/or archiving in a higher-level central control.

The same is true for the **collection of data that has not been documented electronically previously, e.g.:**

- The distance between the nozzle outlet and calibration
- Temperatures in the vacuum tank

### Collection and archiving, and the possibility of downstream analysis of all influencing parameters offers you the following advantages:

- More stable production
- A substantial reduction of the NOK proportion and
- Faster and more meaningful error analysis for production failures
- Complete traceability of quality and production data
- Constant reduction of production costs
- Constant improvement in quality

Bellaform has picked up this trend and expanding the proven Bellex controls to include a **process data storage module and a separate process data analysis tool.**

The process data storage module collects all relevant production data cyclically and files them in year/month/day order and by individual product and lot number on the system PC or any other PC as required.

The archived production data can be depicted graphically and numerically with the help of the process data analysis software that runs on every standard Windows PC.

**This allows the easy analysis of the recorded process data.** The process data storage and downstream process data analysis allow you to **continually improve the production process** across the entire lifespan of the machine.

Of course this in turn results in a **constant increase in product quality** with simultaneous reduction in costs through the optimisation of material and media consumption. .

### Conclusion

The extension of the proven Bellex controls to include a process data collection module and a separate process data analysis tool give you the opportunity to **increase product quality and lower production costs** over the entire lifetime of the machine.

Bellaform thus provides a decisive contribution so that you can offer your **products in the best quality** and at a competitive price.

## Recording, storing and analysing process data

### Basic functions

- Communication via Profinet with all system components
- Extruders and positions can be freely activated and deactivated
- Extruder visualisation:
  - † Temperature
  - † Speed
  - † Mass temperature
  - † Mass pressure
- Weekly timer
- Set-back temperature
- Vacuum tank visualisation:
  - † Water temperature
  - † Vacuum
  - † Pump speed
  - † Nozzle distance
- Recipe administration with all relevant parameters for each product
- Synchronous operation or ramp function for all drives in the system
- Trend graphic for all relevant process parameters
- Diameter regulation via the vacuum
- Scrap cut function
- Batch print out
- Fault report page with archive
- Access authorisation to the screen pages using a password



### Options

- Remote maintenance system: short global reaction times in the event of machine standstill
- Integration into visualisation:
  - † Measurement systems of all known manufacturers
  - † Gravimetry with metre weight regulation for the extruder
  - † Flame impingement system

- Drying systems
- Conveying systems

### Neue Funktionen

- Process storage module
- Process data analysis tool

