



# **Efficient controller technology**

## **Practical tips**

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Technical Sales

ARBURG Technology-Days  
22.-24. June 2022, Lossburg

## Focus on intuitive operation



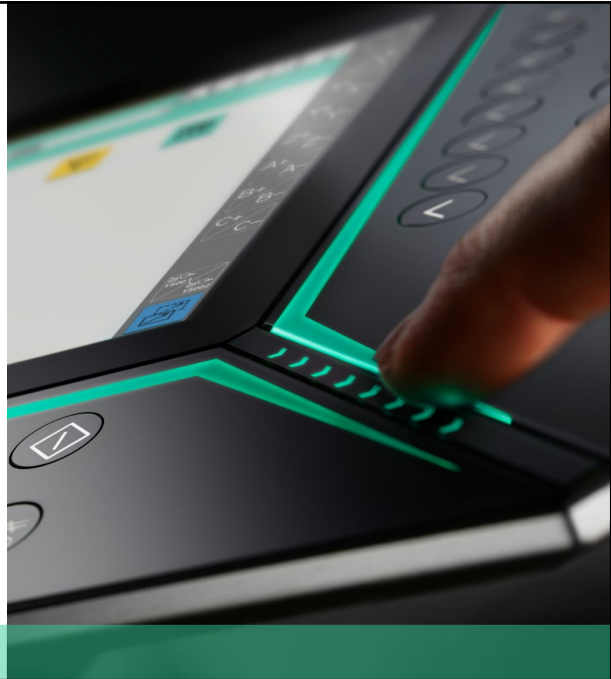
## Sticking to what works

- Fixed keys for main axes and basic functions
- Keys freely configurable via screen
- Keys illuminated for user guidance



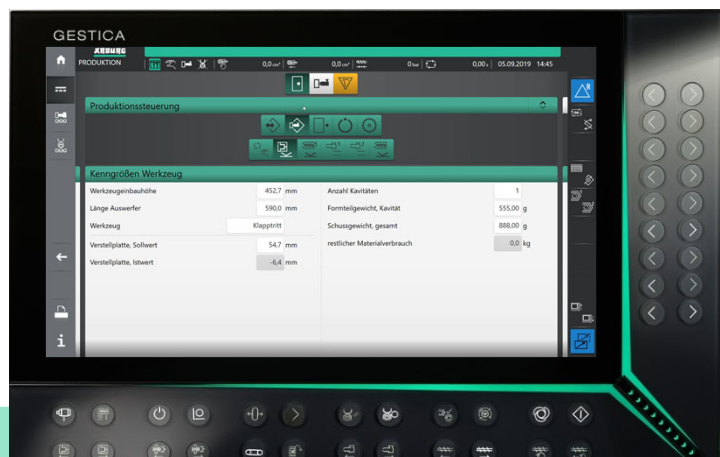
## EASYslider

- Precise speed control
- In set-up mode for
  - Mould
  - Ejector
  - Robot axes



## Intuitiv navigation

- 3-step theme navigation
- Rapid navigation with search function
- Page change with swipe gestures



## Everyday advantage – faster navigation

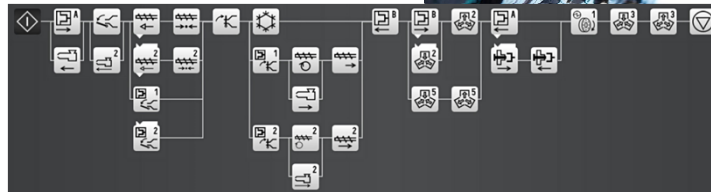


**-100.000**  
clicks / year



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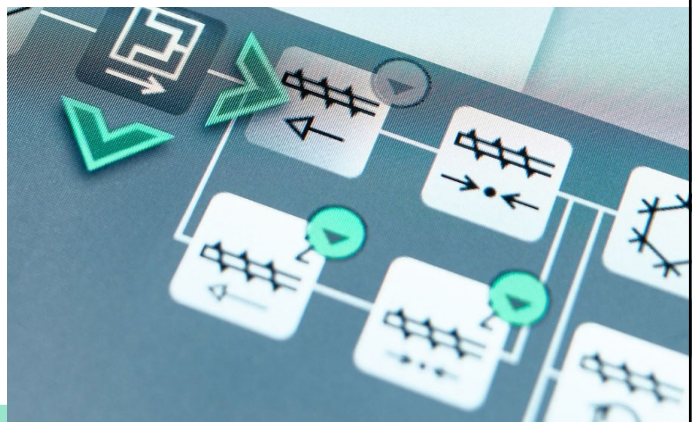
## Tried and tested sequence programming



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## More security through plausibility check

- Programming sequence monitoring
- Only permissible actions can be selected



## Assistance packages – help in every situation



### 4.SET-UP

Guided set-up



### 4.START-STOP

Fast  
production start-up



### 4.OPTIMISATION

Assured quality  
and productivity

## Assistance packages – help in every situation



### 4.PRODUCTION

Greater  
programming freedom



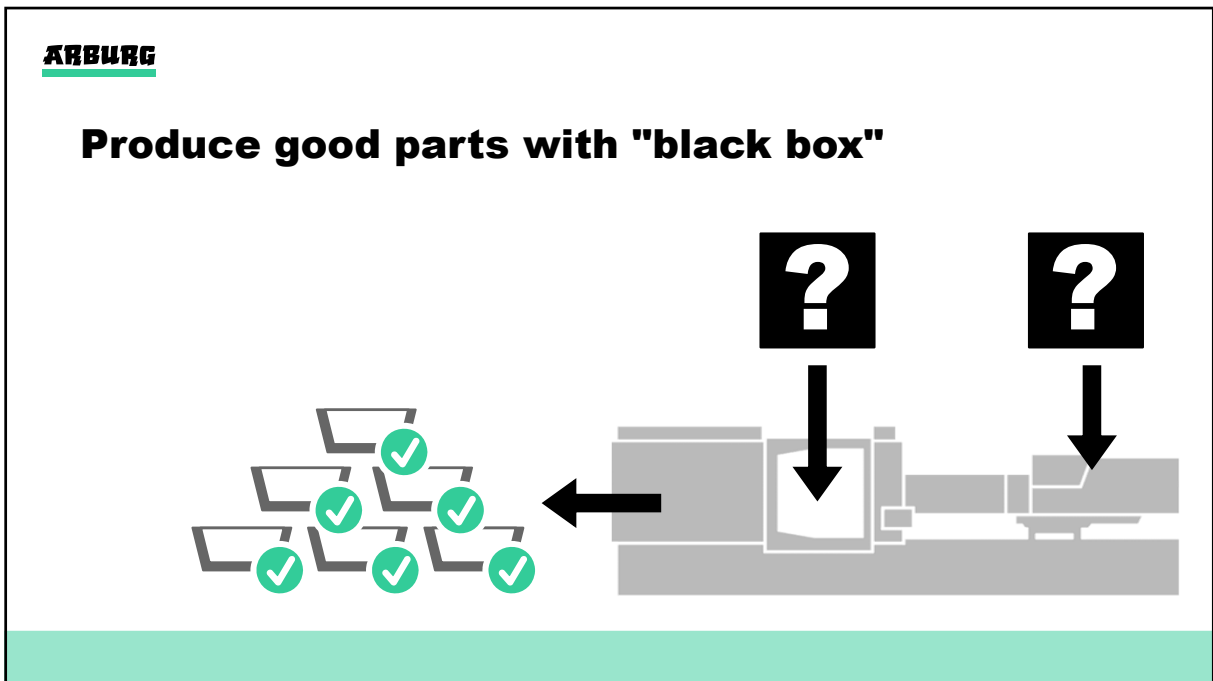
### 4.MONITORING

Controlled  
system status



### 4.SERVICE

Time-saving  
online support





## Machine set-up – a complex process

- Time pressure
- Quality requirements
- Lack of skilled workers



## How does the controller provide support?

- aXw Control FillAssist
- Parameters calculated automatically based on the part model
  - Faster set-up
  - Safe set-up



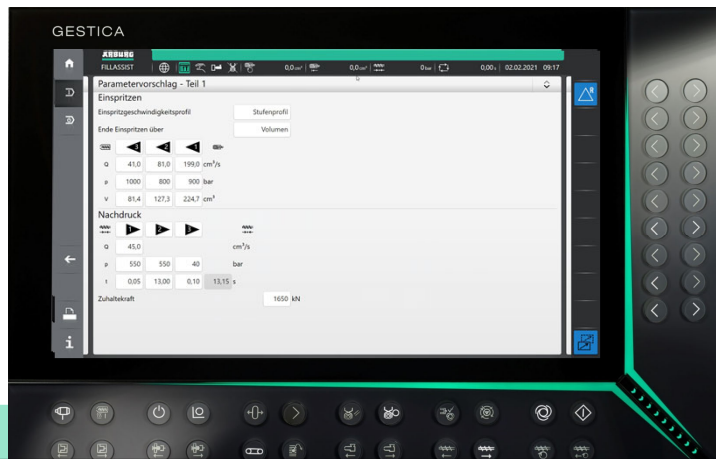


## FillAssist: set up directly with design data

- Filling pattern-file imported from simulation

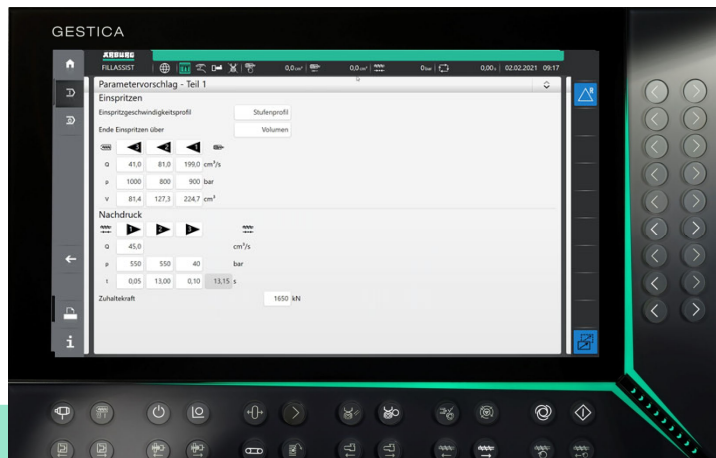
Alternatively:

- STL-file imported for
  - moulded part
  - hot runner
  - cooling circuits
- Simulation of the mould filling and calculation of setting parameters online in control system



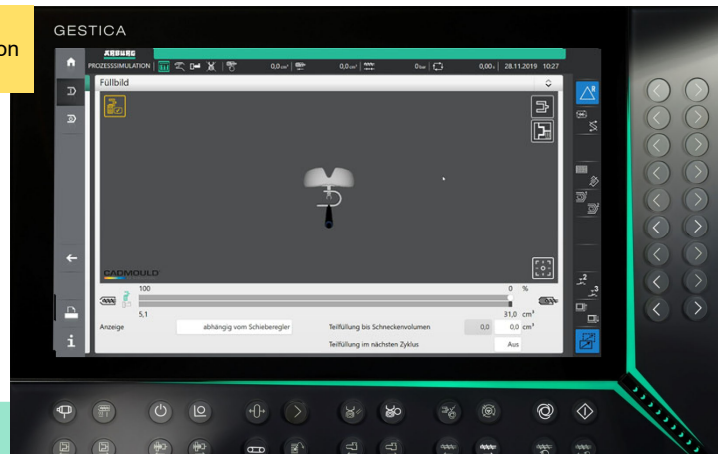
## FillAssist: actively taking the burden off setters

- No need to look up material data
- No need to measure the projected area
- No need to estimate mould locking cooling time dosage volume etc.
- No need to interpret injection curve diagrams



## FillAssist: interactive 3D filling pattern

Filling level of the part in relation to the current position of the screw is animated

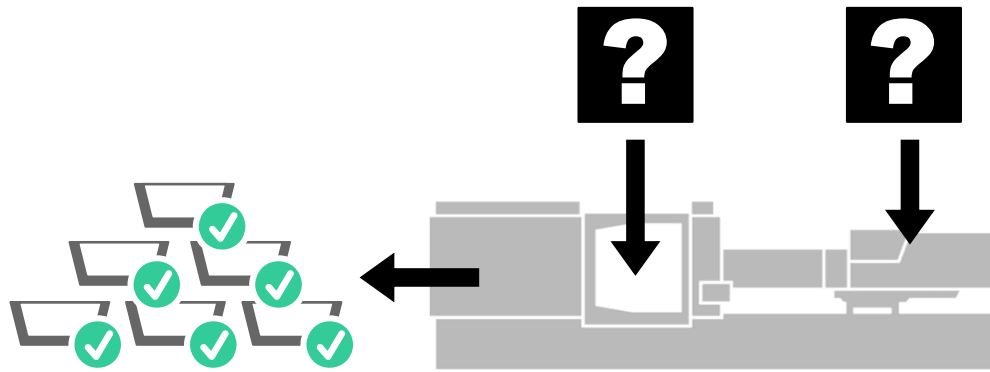


## FillAssist: faster to the good part

- Filling process visualised – simulation data available directly on the control system
- Use pre-calculated setting parameters
- Up to **40 per cent** time saving – setter can focus on process optimization

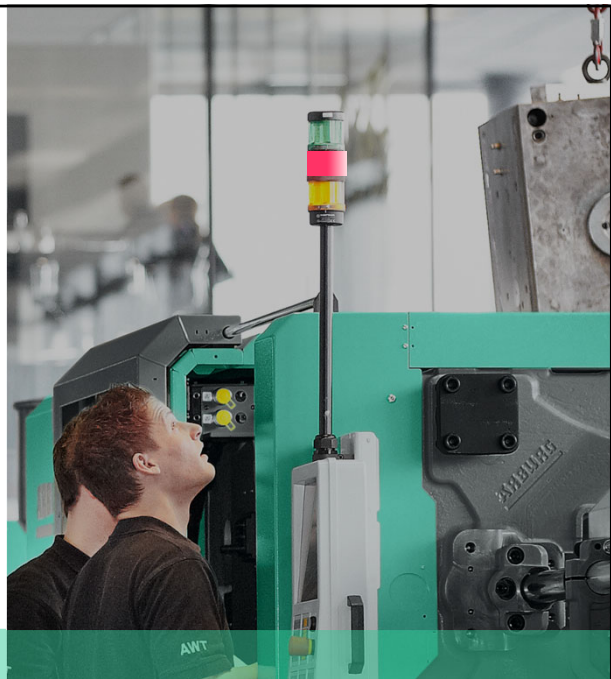


## Produce good parts with "black box"



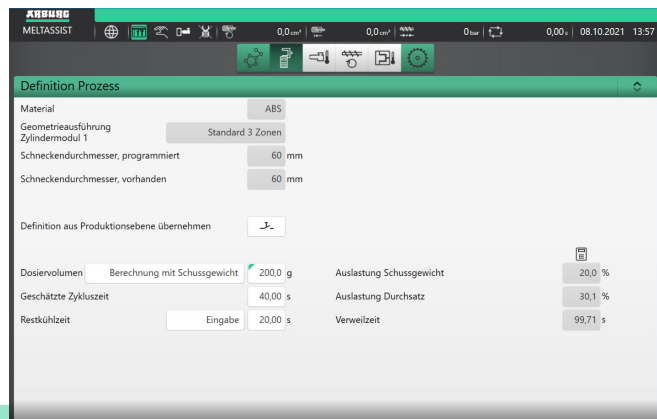
## Transparency is essential

- Minimise standstills
- High demands on quality of part and process
- But: where to source reliable data?



## aXw Control MeltAssist

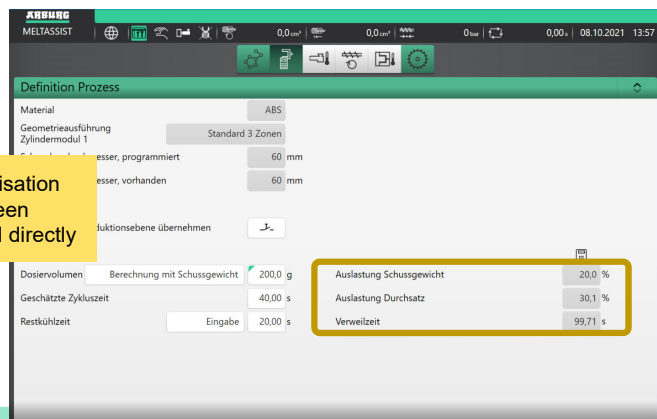
- Control system recognizes plasticising unit via built-in chip
- Automatic calculation of
  - Necessary maintenance
  - Suggested parameters\*



\* only in the case of GESTICA for cylinder temperature, dosing, decompression, mould temperature and material drying

## aXw Control MeltAssist

Capacity utilisation can be seen and monitored directly



## Simple set-up for the operator

- Control system provides active support
- Only two steps required by the operator during set-up
  - Material definition
  - Process definition

Exhibit  
630 H Packaging in  
the area of  
**turnkey solutions**

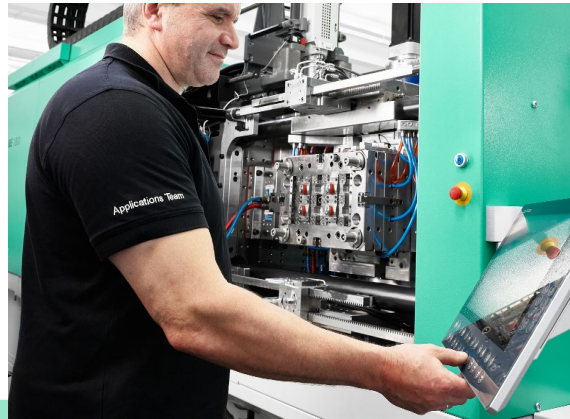
## Automatic parameter suggestions

- Automatically calculated parameters
  - Cylinder temperature
  - Dosing and decompression
  - Mould temperature and material drying

Exhibit  
630 H Packaging in  
the area of  
**turnkey solutions**

## High utilisation rate and more good parts

- Active support through controller function
- Operator has the authority to make decisions at any time
- Optimum scheduling of maintenance intervals
- Fewer unscheduled standstills



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**EASE OF USE**

**ASSISTANTS**

**SUSTAINABILITY**

**MACHINE CONTROL TECHNOLOGY**

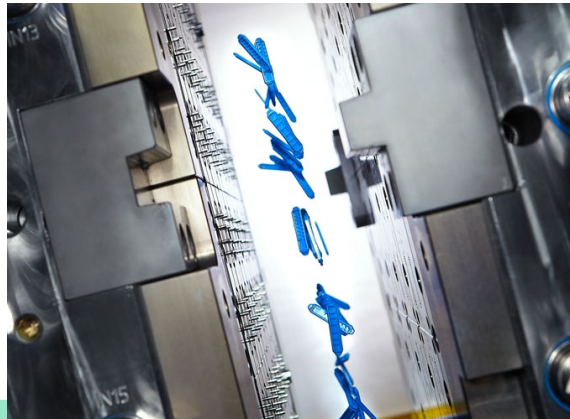
**SMART MACHINE**

**EFFICIENCY**



## Sustainability in the injection moulding process

Optimised processes save costs and resources

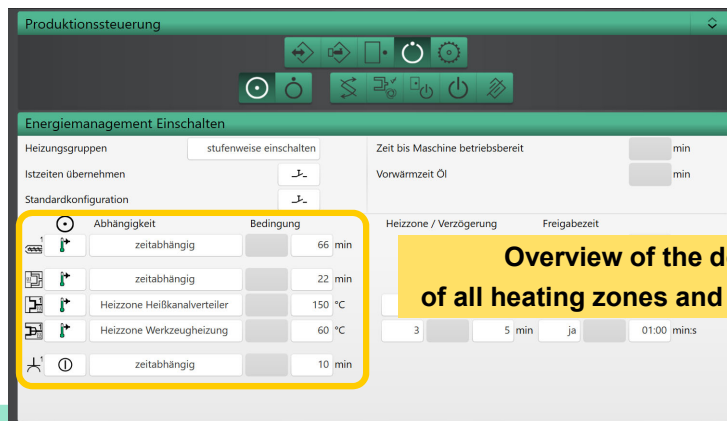


## aXw Control EnergyAssist

- Gradual heating at the push of a button
- Clear display of all relevant parameters on one page
- Automatic calculation of heating times during first heat-up

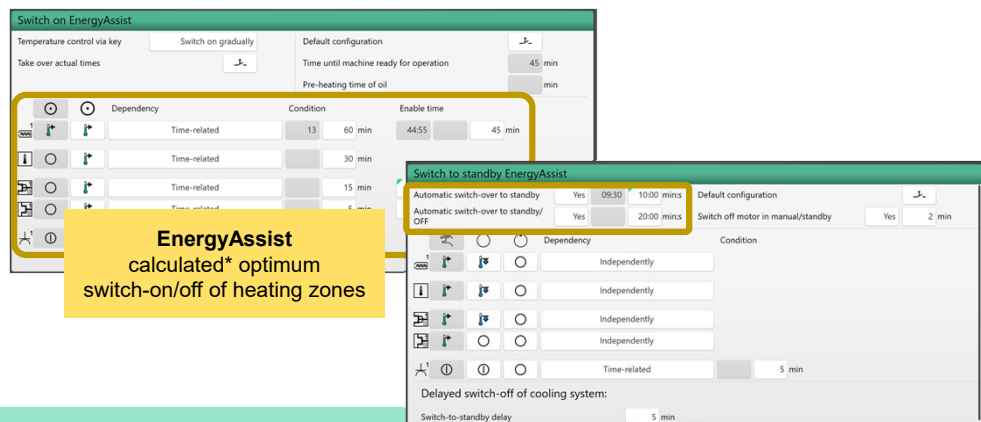


## aXw Control EnergyAssist



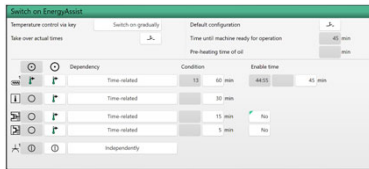
**Overview of the dependency of all heating zones and cooling channels**

## aXw Control EnergyAssist



**EnergyAssist calculated\* optimum switch-on/off of heating zones**

## More energy efficiency – fewer CO<sub>2</sub> emissions



Example  
**- 2,31 kW**  
In the heating phase

- 470 H 1000 - 400
- 8-cavity mould
- Hot runner (12 zones)
- Temperature control unit, 60°C



**- 34 %**  
energy  
requirement

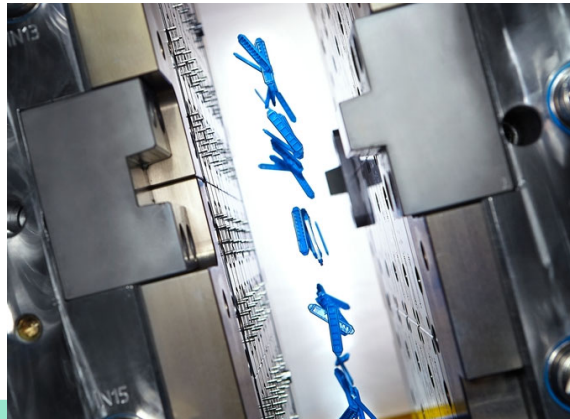
## More energy efficiency – fewer CO<sub>2</sub> emissions

- Lower energy costs
- Thermal decomposition of the material is avoided
- Damage to the hot runner is prevented

Exhibit  
920 H 5000 - 4600 in  
customer center

## Sustainability in the injection moulding process

Optimised processes save costs and resources



## aXw Control **CycleAssist**

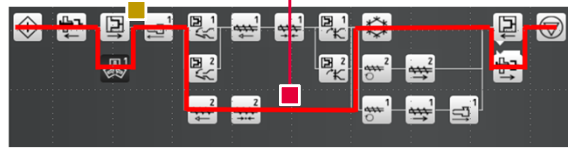
- Analysis of dead times\*
- Message for operators with suggestions for optimisation



Art	Meldung	Kenntung
🔧	Warten auf Ende Kühlzeit optimieren	8.474.3.8
🔧	Auswerfer zurückfahren zyklusübergreifend programmieren	8.470.3.1
🔧	Auswerfer vorfahren zyklusübergreifend programmieren	8.470.3.11
🔧	Verzögerungszeit Werkzeug schließen optimieren	8.468.3.2
🔧	Wegstart Auswerfer vorfahren optimieren	8.469.3.11
🔧	Zweig Verschlussdüse 2 Werkzeug öffnen bis Verschlussdüse 1 Werkzeug schließen optimieren	8.467.3.18.3.7

## Example of application

- Checks parallel sequences and localizes **slower branch** in the sequence
- Analysis includes
  - **Delay times**
  - Position-related starts
  - Cross-cycle programming of ejector symbols
  - Delays due to axle release signals



## Shorter cycle time – more output



Example  
**- 0,15 s**

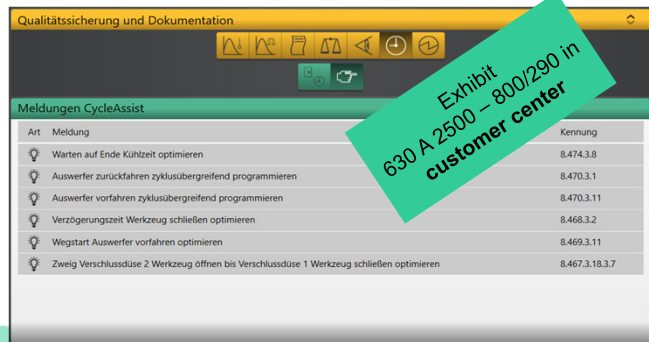
- 570 A 2000 – 400 Comfort
- 15 s cycle time
- 4-cavity mould
- 3 layers
- 250 days/year
- 95 per cent availability



**+ 44.000 parts/year**

## More production efficiency

- More output
- Fast and simple process optimisation



Qualitätssicherung und Dokumentation

Meldungen CycleAssist

Art	Meldung	Kennung
💡	Warten auf Ende Kühlzeit optimieren	8.474.3.8
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Exhibit 630 A 2500 – 800/290 in customer center

## Get ready – your gateway to the future

### #firstGESTICA

Unique offer from Jun. 22<sup>nd</sup> 2022 to Dec. 31<sup>st</sup> 2022\*

### Useful assistance systems

FillAssist, CycleAssist, EnergyAssist permanently activated

### Free training

Intense Web Based Training



\* for the first machine with GESTICA (once per location)



