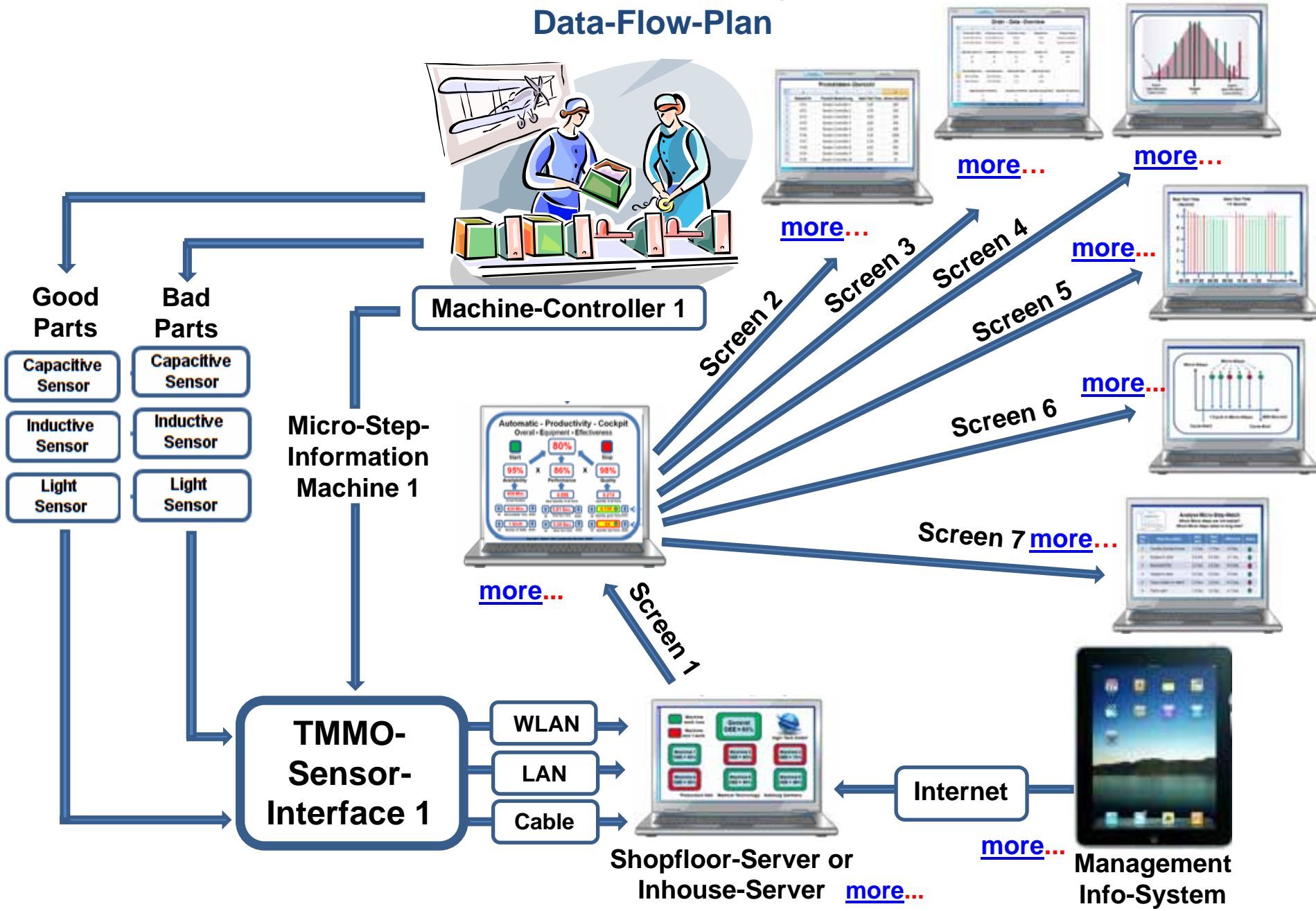


# Automatic-Productivity-Cockpit

## Data-Flow-Plan



# Management-Information-System



zurück



I-Pad



I-Pad



Online-Service for HW and SW at every Places of the World



I-Pad



I-Pad



Plant-Leader

CEO International



Inhouse Experts for Productivity at every Places of the World



I-Pad



„Maria und Josef“ as Operators in front of the Machines



Production-Controlling and Service in the Factory



Planning and Controlling at every Places of the World

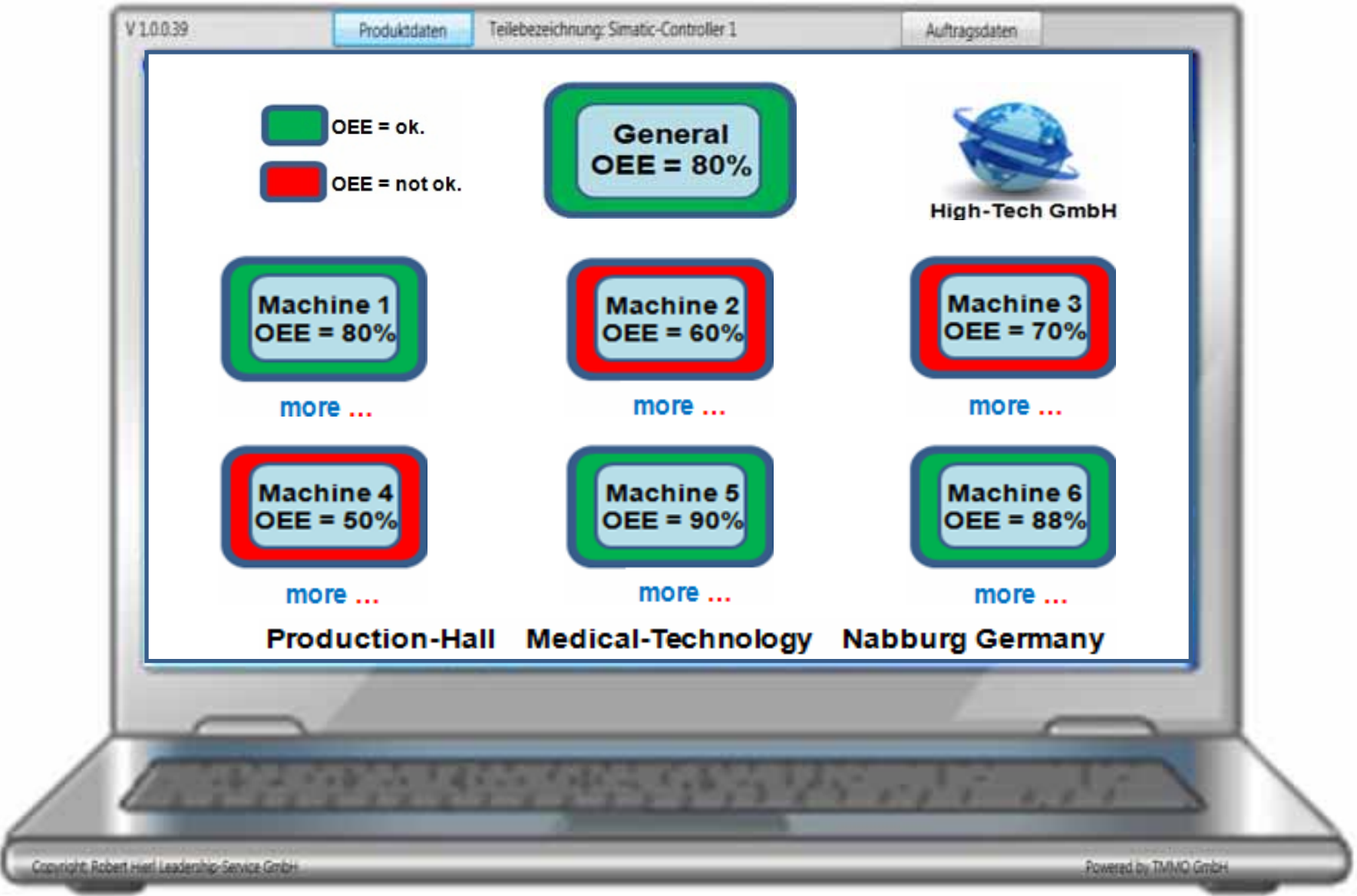
more...



← zurück

# Shopfloor-Server

## Management-Productivity-Controlling





zurück

# Screen 1 Maschine 1

## Productivity-Improvement



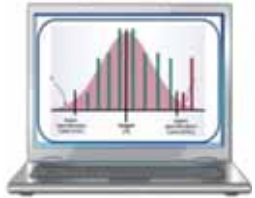
zurück

Product-Data Overview



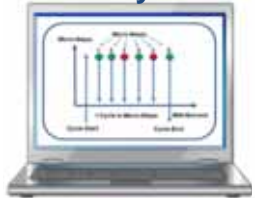
more ...

Cycle-Time Variance



more ...

Micro-Cycle Analysis



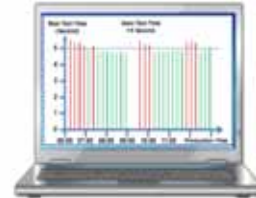
more ...

Order-Data Overview



more ...

Cycle-Time Performance



more ...

Micro-Cycle Improvement



more ...

V 1.0.0.39    Produktdaten    Teilebezeichnung: Simatic-Controller 1    Auftragsdaten

### Automatic - Productivity - Cockpit

#### Overall - Equipment - Effectiveness

**Recording**

The dashboard displays a central '80%' Overall Equipment Effectiveness (OEE) metric. It is broken down into three main pillars: Availability (97%), Performance (83%), and Quality (99%).

- Availability (97%):** Derived from an Actual Runtime of 49:56 minutes. A Net available Time of 51:18 minutes is also shown.
- Performance (83%):** Derived from an Ideal Quantity of 2.996 parts. The Real Tact-Time is 1.20 seconds, compared to an Ideal Tact-Time of 1.00 seconds.
- Quality (99%):** Derived from a Quantity of 2.497 good parts. It also shows 2.483 good parts lost and 14 bad parts lost.

Control elements include 'Start' (green square) and 'Stop' (red square) buttons, 'up' and 'down' arrows for adjusting values, and a 'Machine Status' indicator (green 'work' button). 'X' marks indicate that Availability and Performance are currently below target.

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# Screen 1 Maschine 2

## Productivity-Improvement

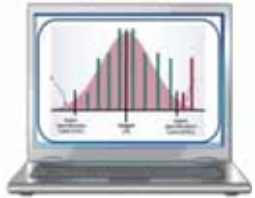


Product-Data Overview



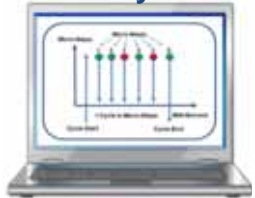
more ...

Cycle-Time Variance



more ...

Micro-Cycle Analysis



more ...

V 1.0.0.39    Produktdaten    Teilebezeichnung: Simatic-Controller 1    Auftragsdaten

### Automatic - Productivity - Cockpit

#### Overall - Equipment - Effectiveness

Recording

Start	60 %	Stop
90	X	67
Availability [%]		Quality [%]
17:12	X	99
Actual Runtime [Min]		Ideal Quantity of all Parts
19:04		1.032
Net available Time [Min]		Quantity of all Parts
work		688
Machine Status		Quantity good Parts [pcs]
don't work		683
		Quantity bad Parts [pcs]
		5

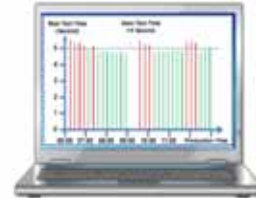
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Order-Data Overview



more ...

Cycle-Time Performance



more ...

Micro-Cycle Improvement



more ...



# Screen 1 Maschine 3

## Productivity-Improvement

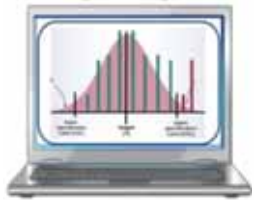


Product-Data  
Overview



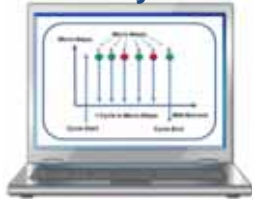
more ...

Cycle-Time  
Variance



more ...

Micro-Cycle  
Analysis



more ...

V 1.0.0.39    Produktdaten    Teilebezeichnung: Simatic-Controller 1    Auftragsdaten

### Automatic - Productivity - Cockpit

#### Overall - Equipment - Effectiveness

Recording

The dashboard displays a central flow of metrics:

- Machine Status:** work (green)
- Start/Stop:** 70% (red)
- Availability:** 95% (red)
- Performance:** 74% (red)
- Quality:** 99% (red)
- Actual Runtime:** 20:54 (red)
- Ideal Quantity:** 1.254 (red)
- Quantity of all Parts:** 929 (red)
- Net available Time:** 22:03 (red)
- Real Tact-Time:** 1,35 (red)
- Quantity good Parts:** 924 (green)
- Ideal Tact-Time:** 1,00 (red)
- Quantity bad Parts:** 5 (red)

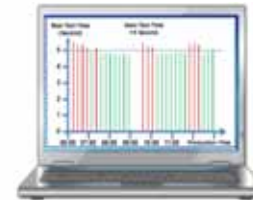
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Order-Data  
Overview



more ...

Cycle-Time  
Performance



more ...

Micro-Cycle  
Improvement



more ...



# Screen 1 Maschine 4

## Productivity-Improvement

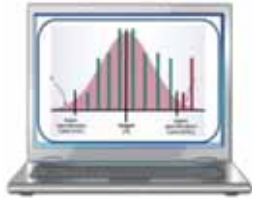


Product-Data Overview



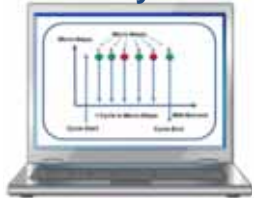
more ...

Cycle-Time Variance

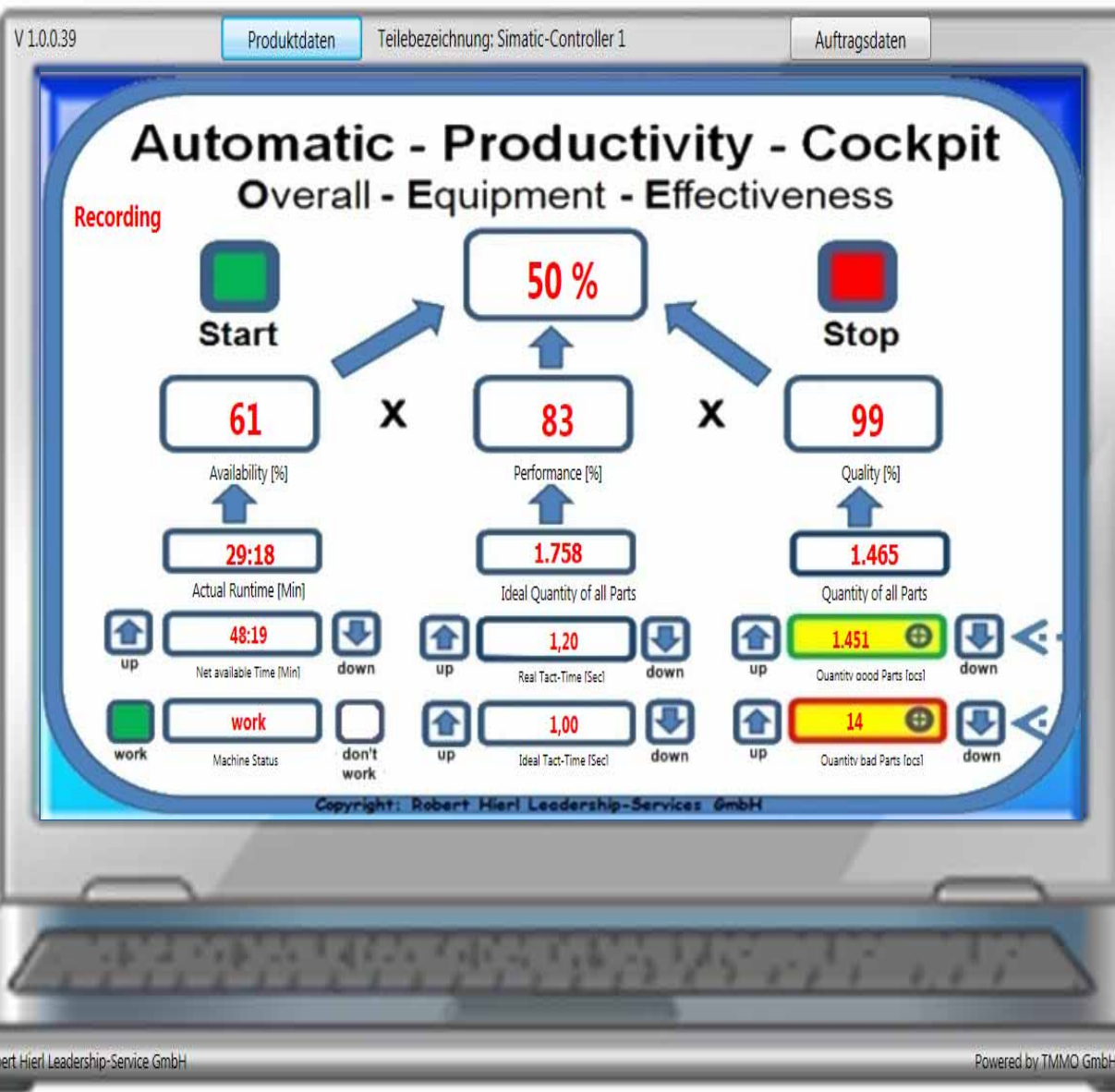


more ...

Micro-Cycle Analysis



more ...

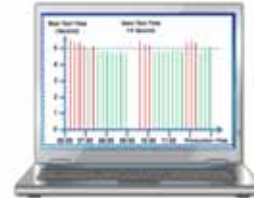


Order-Data Overview



more ...

Cycle-Time Performance



more ...

Micro-Cycle Improvement



more ...



# Screen 1 Maschine 5

## Productivity-Improvement

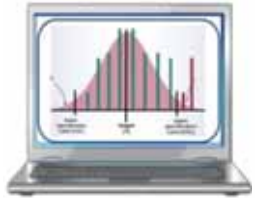


**Product-Data Overview**



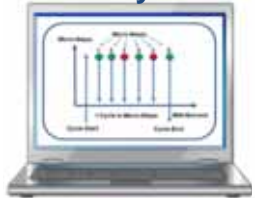
more ...

**Cycle-Time Variance**



more ...

**Micro-Cycle Analysis**



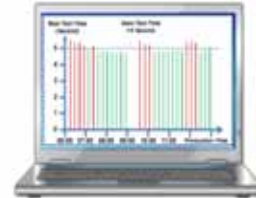
more ...

**Order-Data Overview**



more ...

**Cycle-Time Performance**



more ...

**Micro-Cycle Improvement**



more ...

V 1.0.0.39    Produktdaten    Teilebezeichnung: Simatic-Controller 1    Auftragsdaten

### Automatic - Productivity - Cockpit

#### Overall - Equipment - Effectiveness

Recording

Metric	Value	Unit
Overall Equipment Effectiveness (OEE)	90%	%
Availability	96	%
Performance	95	%
Quality	99	%
Actual Runtime	52:27	Min
Ideal Quantity of all Parts	3.147	Quantity
Quantity of all Parts	2.997	Quantity
Net available Time	54:47	Min
Real Tact-Time	1,05	Sec
Ideal Tact-Time	1,00	Sec
Quantity good Parts	2.972	Quantity
Quantity bad Parts	25	Quantity
Machine Status	work	Status

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# Screen 1 Maschine 6

## Productivity-Improvement

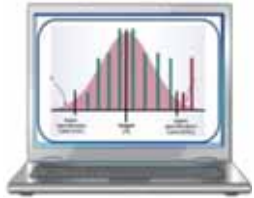


Product-Data  
Overview



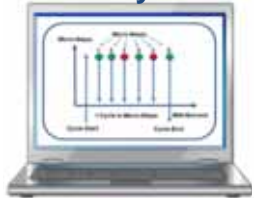
more ...

Cycle-Time  
Variance



more ...

Micro-Cycle  
Analysis



more ...

V 1.0.0.39    Produktdaten    Teilebezeichnung: Simatic-Controller 1    Auftragsdaten

### Automatic - Productivity - Cockpit

#### Overall - Equipment - Effectiveness

**Recording**

**Start**

**95**

Availability [%]

**54:03**

Actual Runtime [Min]

**57:11**

Net available Time [Min]

**work**

Machine Status

**X**

**88 %**

Performance [%]

**3.243**

Ideal Quantity of all Parts

**1,05**

Real Tact-Time [Sec]

**1,00**

Ideal Tact-Time [Sec]

**Stop**

**97**

Quality [%]

**3.089**

Quantity of all Parts

**3.001**

Quantitv good Parts [pcs]

**88**

Quantitv bad Parts [pcs]

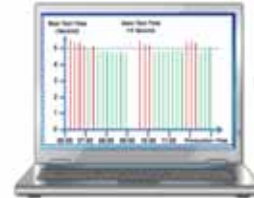
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Order-Data  
Overview



more ...

Cycle-Time  
Performance



more ...

Micro-Cycle  
Improvement



more ...



# Screen 2

## Product - Data - Overview



V 1.00.39

Produkt-Tab Produkt-Tab

Produkt-Tab

Teilebezeichnung: Simatic-Controller 1

Auftragsdaten

### Product - Data - Overview

	A	B	C	D
1	Material-Nr	Produkt-Bezeichnung	Ideal-Takt-Time	Jahres-Stückzahl
2	4711	Simatic-Controller 1	5,00	200
3	4712	Simatic-Controller 2	4,70	200
4	4713	Simatic-Controller 3	4,50	200
5	4714	Simatic-Controller 4	3,00	300
6	4715	Simatic-Controller 5	2,10	400
7	4716	Simatic-Controller 6	4,30	2000
8	4717	Simatic-Controller 7	5,70	200
9	4718	Simatic-Controller 8	4,50	500
10	4719	Simatic-Controller 9	3,50	100
11	4720	Simatic-Controller 10	6,40	20

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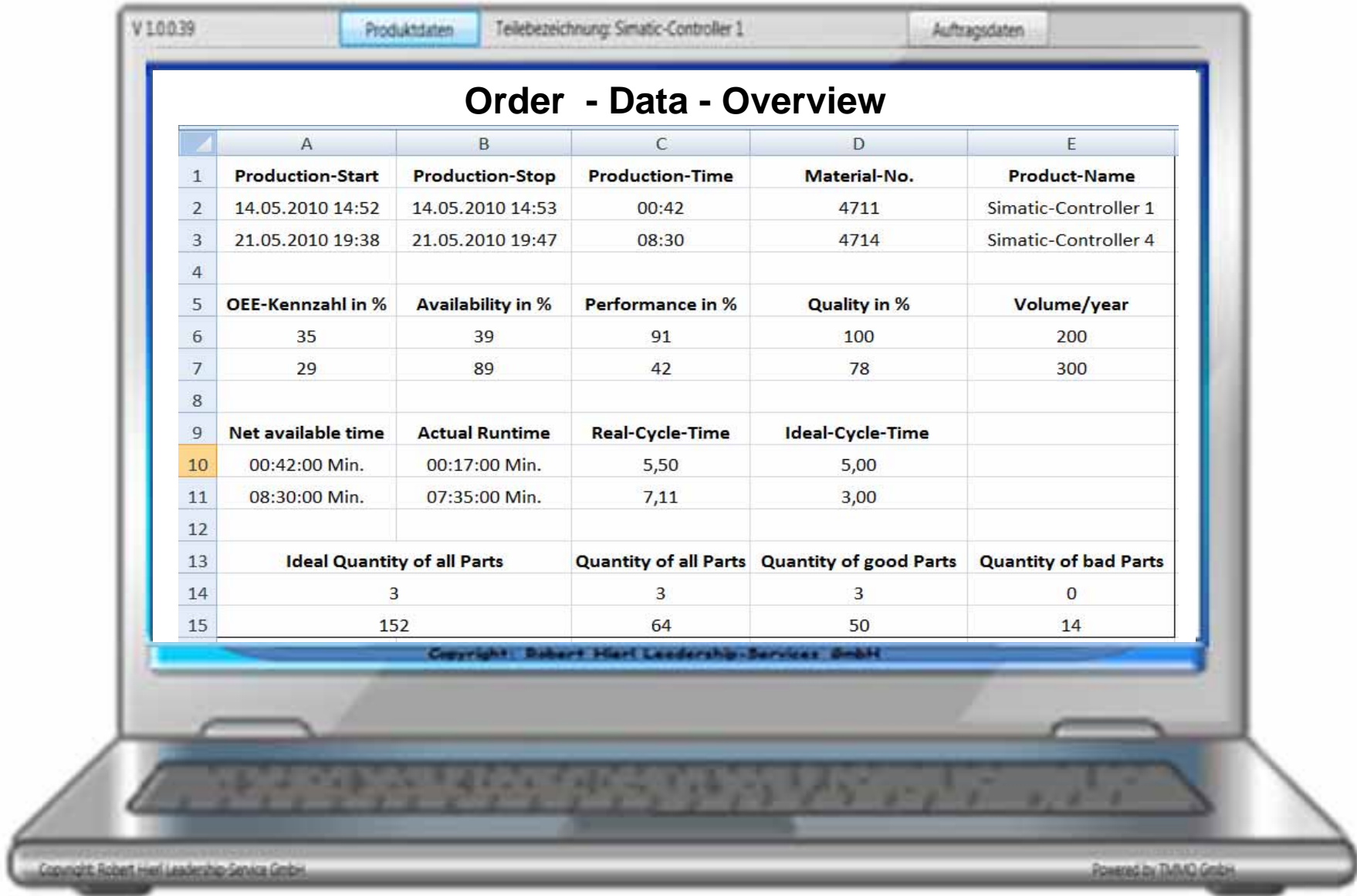
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# Screen 3

## Order - Data - Overview



V 1.00.39

Produkt

Tellebezeichnung: Simatic-Controller 1

Auftragsdaten

### Order - Data - Overview

	A	B	C	D	E
1	<b>Production-Start</b>	<b>Production-Stop</b>	<b>Production-Time</b>	<b>Material-No.</b>	<b>Product-Name</b>
2	14.05.2010 14:52	14.05.2010 14:53	00:42	4711	Simatic-Controller 1
3	21.05.2010 19:38	21.05.2010 19:47	08:30	4714	Simatic-Controller 4
4					
5	<b>OEE-Kennzahl in %</b>	<b>Availability in %</b>	<b>Performance in %</b>	<b>Quality in %</b>	<b>Volume/year</b>
6	35	39	91	100	200
7	29	89	42	78	300
8					
9	<b>Net available time</b>	<b>Actual Runtime</b>	<b>Real-Cycle-Time</b>	<b>Ideal-Cycle-Time</b>	
10	00:42:00 Min.	00:17:00 Min.	5,50	5,00	
11	08:30:00 Min.	07:35:00 Min.	7,11	3,00	
12					
13	<b>Ideal Quantity of all Parts</b>		<b>Quantity of all Parts</b>	<b>Quantity of good Parts</b>	<b>Quantity of bad Parts</b>
14	3		3	3	0
15	152		64	50	14

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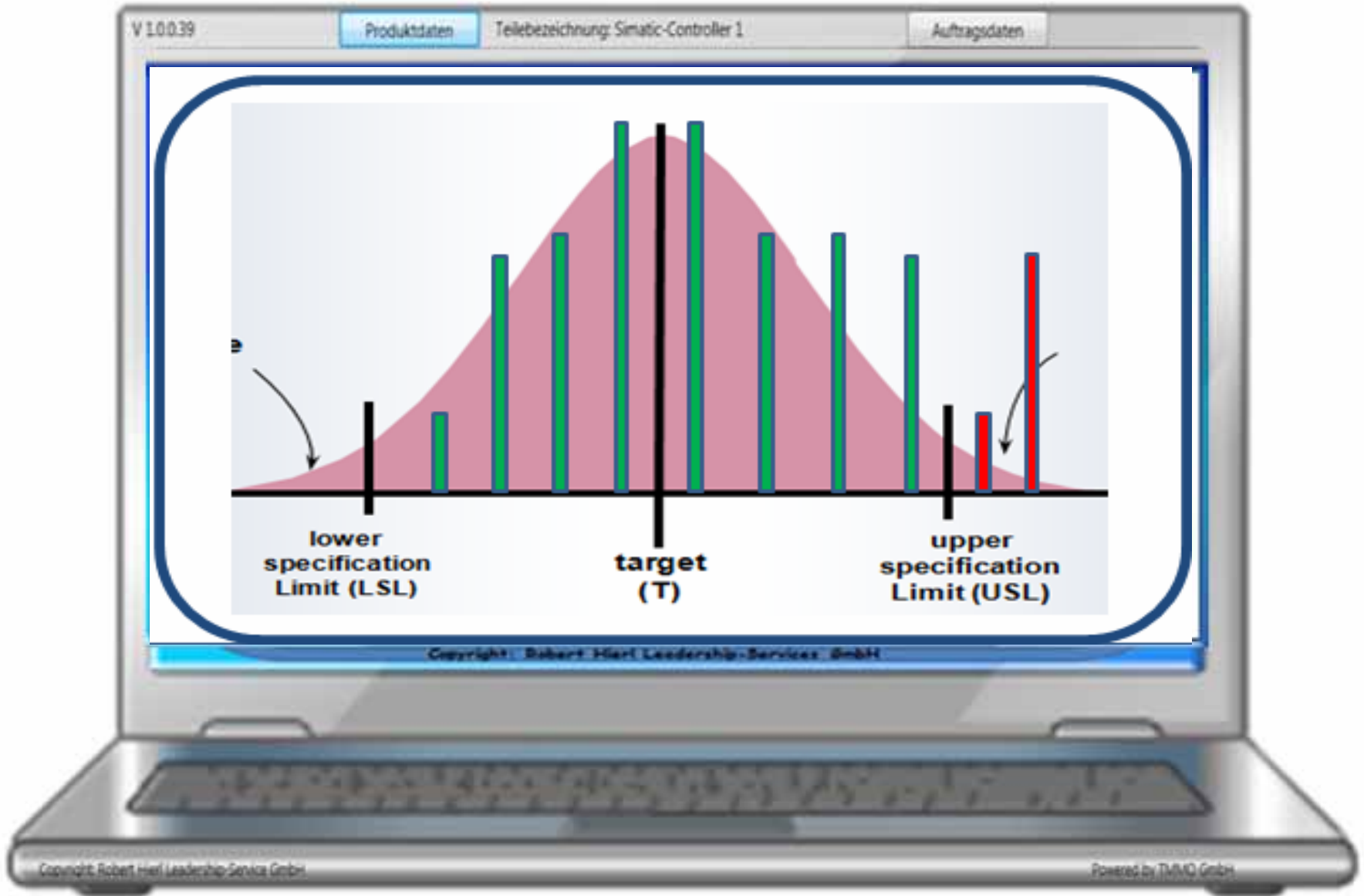
← zurück

# Screen 4

## Cycle-Time-Variance-Analysis



← zurück





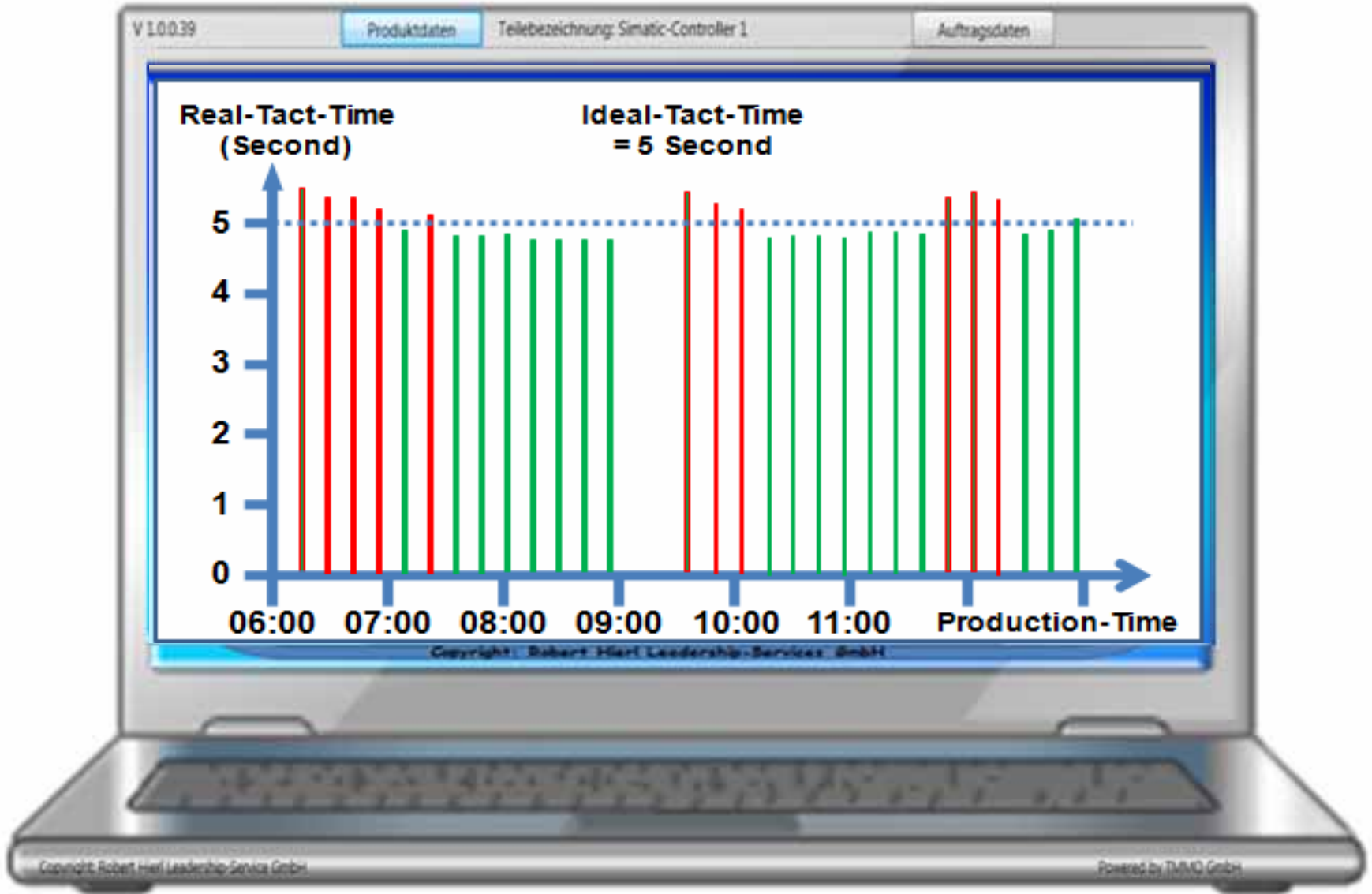
← zurück

# Screen 5

## Production-Performance Trend-Analysis



← zurück





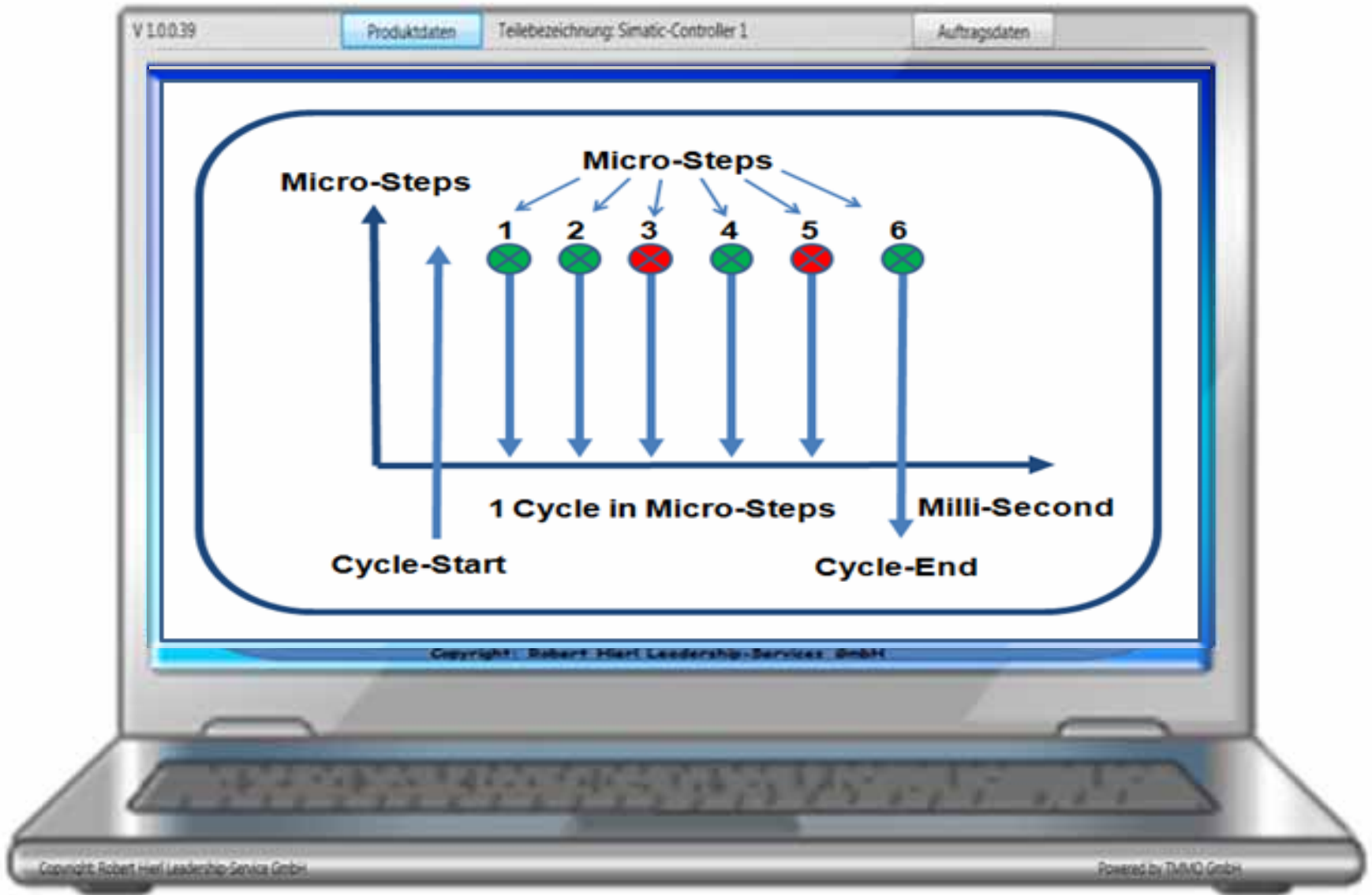
← zurück

# Screen 6

## Micro-Step Time-Watch



← zurück





# Screen 7

## Micro-Step Time-Watch



V 1.0039      Produktdaten      Teilebezeichnung: Simatic-Controller 1      Auftragsdaten

### Analyse Micro-Step-Watch

Which Micro-Steps are not stable?  
Which Micro-Steps takes to long time?

Step No.	Step-Description	plan-time	Real-time	Difference	Status
1	Transfer-Zylinderforwad	1.3 Sec.	1.3 Sec	0.0 Sec.	●
2	Grapper to close	0.5 Sec.	0,4 Sec.	-0.1 Sec.	●
3	MovementPart	2.2 Sec.	2.8 Sec.	+0.6 Sec.	⊗
4	Grapper to open	0.5 Sec.	0.5 Sec.	0.0 Sec.	●
5	Vision-System to detect	3,5 Sec.	3,8 Sec.	+0.5 Sec.	⊗
6	Part to eject	1.5 Sec.	1,4 Sec.	-0.1 Sec.	●

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