



PROCE55 Scheduling

Overview

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PROCE55 Scheduling Introduction

PROCE55 Scheduling is a solution for operational planning. It optimally complements ERP systems, that focus mainly on the long-term planning and management of material stocks.

For ERP systems it is very difficult to assemble an operational plan of production operations scheduling due to the dynamic changes (machine failures, downtime, non-conformity, lack of appropriate workers, etc.) massively generated in the manufacturing process. ERP systems do not record discrete events in production, and therefore they cannot manage related changes in the scheduling of production operations. Existence of alternative production processes and lines makes the optional capacity utilization a big challenge as well.

For the standard ERP systems inflexibility, a lot of companies operationally plan to use the planning tables or spreadsheets (e.g. Excel). Since the operation scheduling has a direct impact on the profitability of production and manual operational planning in a complex manufacturing process is suboptimal, this manual way of designing the operating production plan is inappropriate.

PROCE55 Scheduling creates detailed plans for various shifts, lines and machines. According to customer requirements it automates and op-

timizes the way of assembling and time-scheduling of the manufacturing operations to achieve maximum profitability of the production.

PROCE55 Scheduling does not replace the ERP system, which creates optimal long-term plans (e.g. processes MRP, SCM, APS), but extends its functionality in the context of short-term management of production processes.

Solution Benefits

- » Shortening of the production cycle
- » Elimination of inter-operation stocks
- » Reduction and optimization of setup times and thereby increase of profitability
- » Optimization of batch sizing
- » Rapid development of detailed plans that take into account the current limitations of production capacity
- » Possibility of simple additional changes in the prepared plans
- » Better allocation of workers in production shifts
- » Ability of early prediction of the exceptional situations - delayed orders, workers overtime
- » Increasing of the ability to flexibly respond to the customer requirements
- » Increasing of the supply reliability

PROCE55 Integration

PROCE55 Manufacturing

PROCE55 Scheduling is integrated with a production management system, PROCE55 Manufacturing or different. PROCE55 Scheduling sends all relevant information regarding the production orders into production. At the same time it receives updated information about the production activities (orders in process, worker data, inventory changes), which may have an impact on other operational changes in the plan.

PROCE55 Warehouse

PROCE55 Scheduling is integrated with logistics and warehouse management system, PROCE55 Warehouse or different. System integration allows planning of the production supply from the stock. Unlike ERP systems, PROCE55 Scheduling allows to plan production also in the case that the required material is not received at the warehouse yet, but its receipt is already expected.

PROCE55 Maintenance

PROCE55 Scheduling can be integrated with a maintenance system, PROCE55 Maintenance or other. Such integration allows for inclusion of periodic maintenance tasks into the production plan.

PROCE55 Scheduling Features

Optimization of Production Processes

PROCE55 Scheduling enables optimal scheduling of production operations. It considers the size of production batches and machine setup times. Detailed time planning of production operations takes into account a specific plan of changes including the distribution of operations and inserting of operations not planned in the ERP (e.g. maintenance or repairs). It optimizes changes in the production process (e.g. color applying order), which allows significant savings in the phase of machines setup, cleaning and other. It allows planning of collective orders.

Management of Unexpected Events

PROCE55 Scheduling supports production workers in developing of detailed plans of production operations for particular production machines, workers and other production resources. Planning considers the current capacity of resources and allows the use of alternative sources (machines, lines, workers).

Besides the theoretical performance, also the current state of technological, logical and human limiting conditions enter the process of planning (faults and repairs of machines, scheduled downtime, long achieved machine performance, the availability of tools, moulding forms, packaging, necessary technology breaks, presence and availability of workers, etc.).

Automatic and Manual Planning

PROCE55 Scheduling is typically used in semi-automatic mode. Draft version of the plan or planning versions are automatically designed by the system under various criteria and then manually fine-tuned and released by the planner using visual tools such as the planning board and Gantt's charts.

Variable Planning

Due to the fact that certain professionals (e.g. planners) may only be available during a limited time period (e.g. on weekdays and only throughout the day shift), PROCE55 Scheduling allows to work with different versions of the plans. Different variants of the plan assume unplanned conditions to which it is difficult to respond appropriately over the weekend - failure, loss of capacities, machines, shortage of materials, lack of people.

Simulations

PROCE55 Scheduling helps in finding out whether it is possible to fulfill the customer requirements. The simulation function allows checking the possibility of completing the order or a delay in case of a shortage of materials, resources or scheduling places.

Bottlenecks in Production

PROCE55 Scheduling allows getting information about the production bottlenecks in advance. Planning of maintenance of planning units or production resources is implemented with regard to the fulfillment of order delivery terms.

Evaluation of Plans

There is a possibility of persistence and re-evaluation of plans and their versions. In case of using the PROCE55 solution in manufacturing execution and production confirmation, it is possible to evaluate the deviations between the plan and reality.

Integration with ERP System

A typical usage scenario is taking PROCE55 Scheduling rough production plan (e.g. weekly or two weeks) from the ERP system and subsequent detailed scheduling of each shift, line or machine in the PROCE55 solution.

PROCE55 Technology

PROCE55 Scheduling is a set of pre-configured components developed by East-Gate on the BPM platform PROCE55. These components are individually customized with every implementation. Users are not distracted by unnecessary functionalities. New functionalities and processes can be easily added with new components.

Flexibility

PROCE55 solution delivers applications with functions customized to each company. Development of PROCE55-based applications and their changes are extremely fast. Solution flexibility is significantly higher in comparison with standard ERP systems. Changes can be implemented in response to quick and unexpected changes in the processes. Even if the company changes its processes as often as every month, PROCE55 solution can adequately respond to such frequent changes.

Rapid Implementation

Implementation process is also characterized by high solution flexibility. Implementation can already begin with the first concept, without a precise specification. Next, optimal solution is iteratively developed based on the real customer need. PROCE55 implementation is not based on lengthy specifications. On the other hand, time is spent on continuous development of functions, together with the customer.

Simple Use

User interface is customized to processes and workers. It simplifies work with applications and process control. User training is fast because the screens are easy-to-understand and can be used intuitively. Friendly user interface leads to minimum user errors. The human-machine interface is a significant advantage compared to standard ERP systems, whose complex screens require highly qualified and trained staff.

Favorable License Conditions

East-Gate's license and pricing policy is favorable when compared with other solutions. PROCE55 is provided under a server license. Number of end users is not restricted.

PROCE55 Solution Repository

Solution repository is a set of configurable solutions, which are used for accelerated development of specific solutions.

PROCE55 Solution Repository includes:

- » PROCE55 Manufacturing
Manufacturing system (MES)
- » PROCE55 Scheduling
Operations scheduling
- » PROCE55 Quality
Quality management
- » PROCE55 Labs
Laboratory system (LIMS)
- » PROCE55 Warehouse
Logistics and warehouse system (WMS)
- » PROCE55 Maintenance
Maintenance system (CMMS)
- » PROCE55 Mobile
Field operations management
- » DigiSWord
Document digitization
- » PROCE55 AIM
Asset & inventory management

Implemented Solution Cases

These are screenshots of already implemented solutions. The screens (human-machine-interface) are fully customizable and always optimized for particular project.

Planning 2.33

Sequence: **35000 - 2. test - mib (created on 21.2.2011)** curr.Week: 8

Save plan
 marked only

Auxiliary Pos. Date Time Durat.[h] Insert Position

Preparation [dropdown] [input] [input] [input] [input] Change Quantity Setup Prod.Time Change Time Show Order

Note: [input]

Planning Check Delete Planning mark from - to insert at Position Workpl. Notes Remove Order Get Note Update

Start: Date Time Refresh Planning marked only

#1/1 10 Mater.: [input] [input] Quant.: [input] Prod.: [input] Insert Order Remove Position

Fin.Ord.	Fin.Mat.	Order	Mater.	Descr.	Quantity	Rem.Quant.UN	Setup	Prod.	Acc.TimeStart	Note
1	000009275205	62C43S0168	50	CORE PEX-S-AL 12KV PEX INSUL. PHASE 1	300	300	M 12,00	0,22	2011-02-21 19:13	
2	000009275166	62C53S0268	95	CORE PEX-S-AL 12KV PEX INSUL. PHASE 2	20300	16240	M 0,00	12,77	2011-02-22 07:26	
3	000009275167	62C53S0368	95	CORE PEX-S-AL 12KV PEX INSUL. PHASE 3	20300	16240	M 0,00	12,77	2011-02-22 20:12	
4	000009275165	62C53S0168	95	CORE PEX-S-AL 12KV PEX INSUL. PHASE 1	20300	16240	M 12,00	12,77	2011-02-23 08:58	
5	000009275206	62C43S0268	50	CORE PEX-S-AL 12KV PEX INSUL. PHASE 2	10075	-35335	M 0	0		
6	000009275207	62C43S0368	50	CORE PEX-S-AL 12KV PEX INSUL. PHASE 3	10075	-67643	M 0	0		

Planning 2.32

Sequence: **35000 - 2. test - mib (created on 21.2.2011)** curr.Week: 8

Save plan
 marked only

Auxiliary Pos. Date Time Durat.[h] Insert Position

Preparation [dropdown] [input] [input] [input] [input] Change Quantity Setup Prod.Time Change Time Show Order

Note: [input]

Planning Check Delete Planning mark from - to insert at Position Workpl. Notes Remove Order Get Note Update

Start: Date Time Refresh Planning marked only

#1/1 10 Mater.: [input] [input] Quant.: [input] Prod.: [input] Insert Order Remove Position

Fin.Ord.	Fin.Mat.	Order	Mater.	Descr.	Quantity	Rem.Quant.UN	Setup	Prod.	Acc.TimeStart	Note
1	000009275205	62C43S0168	50	CORE PEX-S-AL 12KV PEX INSUL. PHASE 1	300	300	M 12,00	0,22	12,22 2011-02-21 19:14	
2	000009275166	62C53S0268	95	CORE PEX-S-AL 12KV PEX INSUL. PHASE 2	20300	16240	M 0,00	12,77	24,77 2011-02-22 07:27	
3	000009275167	62C53S0368	95	CORE PEX-S-AL 12KV PEX INSUL. PHASE 3	20300	16240	M 0,00	12,77	36,77 2011-02-22 20:13	
4	000009275165	62C53S0168	95	CORE PEX-S-AL 12KV PEX INSUL. PHASE 1	20300	16240	M 12,00	12,77	60,77 2011-02-23 08:59	
5	000009275206	62C43S0268	50	CORE PEX-S-AL 12KV PEX INSUL. PHASE 2	10075	-35335	M 0	0	60,00 2011-02-24 09:45	
6	000009275207	62C43S0368	50	CORE PEX-S-AL 12KV PEX INSUL. PHASE 3	10075	-67643	M 0	0	60,00 2011-02-24 09:45	

Planning

Last updated from SAP on 26.1.2011 23:25

Print plan

Find: [input] in: Order OK

Current week: 7 Week from: 2011 02 to: 2011 17

Workplace: 25000

Group: Conform Detailed planning Sequence planning

Existing sequences: 35600 - Test seq. (created on 18.2.2011)

Show Release Remove Create sequence

Click an order to remove it from the list. You can revert using the 'Show workplace' button above

Material	Order	Text	Date End	Quantity	Deliv.Quant.	Workplace	Start	End	Time
						35700			
						35800			
						35900			
						36400			
						36500			
						36600			
						36700			
						36200			
						36251			

Back **Planning** Last updated from SAP on 26.1.2011 23:25

Find: in: Order

Current week: 7 Workplace: 35700

Week from: 2011 02 to: 2011 17

Group: Conform

(Click an order to remove it from the list. You can revert using the 'Show workplace' button above) Existing sequences: 35600 - Test seq. (created on 18.2.2011)

Material	Order	Text	Date End	Quantity	Deliv.Quant.	Remain.Quantity	UN	Workplace	Start	End	Time
63e23	999999999999	1x240		5000		5000		35700	2011-02-02 15:24	2011-02-02 15:24	0
123456789	999999999999	test		200		200		35700	2011-01-27 00:05	2011-01-27 00:05	0
10C9100845100	000009274052	4X240 U-1000 R2V SORT KAPPEOMPR.	2010-01-25	130		130	M	35700	2011-02-02 11:59	2011-02-02 15:24	3.43
64E74N1S25	000009272900	1x240RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-01	5980		5980	M	35700	2011-01-26 17:55	2011-01-27 00:05	6.18
64E74N2S25	000009272901	1x240RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-01	5980		5980	M	35700	2011-01-27 02:31	2011-01-27 08:41	6.18
64E74N3S25	000009272902	1x240RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-01	5980		5980	M	35700	2011-01-26 14:49	2011-01-26 17:55	3.1
10F19TV021155	000009274053	4G95 TFXP 0,6/1 KV. (TFXP-O) FORS#	2010-02-11	250		250	M	35700	2011-01-27 00:05	2011-01-27 02:31	2.44
64E65N1S25	000009274712	1x150RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-15	2945		-55	M	35700	2011-02-02 15:24	2011-02-02 15:24	0
64E65N2S25	000009274714	1x150RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-15	2945		-4	M	35700	2011-02-02 15:24	2011-02-02 15:24	0
64E65N3S25	000009274716	1x150RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-15	2945		-57	M	35700	2011-02-02 15:24	2011-02-02 15:24	0
64E74D1S25	000009274732	1x240RM-CU (EDF-KABEL) 12-20 kV OMSP.	2010-02-23	7980		3984	M	35700	2011-01-27 08:53	2011-01-27 13:03	4.18
46D64GN045181	000009274309	4X150 NOIK-AL-S SHEATHOMPR. (ANNEALED)	2010-03-08	8100		8100	M	35700	2011-01-28 04:50	2011-01-28 16:54	12.08
64E74N3S25	000009274695	1x240RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-03-11	7930		7930	M	35700	2011-01-29 01:01	2011-01-29 09:08	8.13
64E74N2S25	000009274694	1x240RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-03-11	7930		7930	M	35700	2011-01-28 16:54	2011-01-29 01:01	8.13
68X74SV045181	000009274288	4X240 1XV-SE 1KV UDVENDIG KAPPEOMPR.	2010-03-08	3020		3020	M	35700	2011-01-27 22:11	2011-01-28 04:50	6.65
64E74N1S25	000009274693	1x240RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-03-12	7930		7930	M	35700	2011-01-29 09:08	2011-01-29 17:15	8.13
68X54SE045181	000009274901	4X 95 PEX-M-AL 1KV OUTER SHEATHOMPR.	2010-03-15	8020		8020	M	35700	2011-01-29 17:15	2011-01-30 01:57	8.7
68X74SE045181	000009274914	4X240 PEX-M-AL 1KV OUTER SHEATHOMPR.	2010-03-15	3020		3020	M	35700	2011-01-30 01:57	2011-01-30 08:43	6.78
68X64SE045181	000009274926	4X150 PEX-M-AL 1KV OUTER SHEATHOMPR.	2010-03-15	30180		30180	M	35700	2011-01-30 08:43	2011-01-31 16:17	31.57
52C74GV021155	000009274296	4G240 TFXP 0,6/1 KV. DOBBELSHEATH	2010-03-29	8240		8240	M	35700	2011-01-31 16:17	2011-02-01 11:21	19.08

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Find: in: Order

Current week: 7 Workplace: 35700

Week from: 2011 02 to: 2011 17

Group: Conform

(Click an order to remove it from the list. You can revert using the 'Show workplace' button above) Existing sequences: 35600 - Test seq. (created on 18.2.2011)

Material	Order	Text	Date End	Quantity	Deliv.Quant.	Remain.Quantity	UN	Workplace	Start	End	Time
64E65N1S25	000009274712	1x150RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-15	2945		-55	M	35700	2011-02-02 15:24	2011-02-02 15:24	0
64E65N2S25	000009274714	1x150RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-15	2945		-4	M	35700	2011-02-02 15:24	2011-02-02 15:24	0
64E65N3S25	000009274716	1x150RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-15	2945		-57	M	35700	2011-02-02 15:24	2011-02-02 15:24	0
52C74GV021155	000009274296	4G240 TFXP 0,6/1 KV. DOBBELSHEATH	2010-03-29	8240		8240	M	35700	2011-01-31 16:17	2011-02-01 11:21	19.08

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64E65N1S25	000009274712	1x150RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-15	2945		-55	M	35700	2011-02-02 15:24	2011-02-02 15:24	0
64E65N2S25	000009274714	1x150RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-15	2945		-4	M	35700	2011-02-02 15:24	2011-02-02 15:24	0
64E65N3S25	000009274716	1x150RM-AL (EDF-KABEL) 12-20 kV OMSP.	2010-02-15	2945		-57	M	35700	2011-02-02 15:24	2011-02-02 15:24	0
52C74GV021155	000009274296	4G240 TFXP 0,6/1 KV. DOBBELSHEATH	2010-03-29	8240		8240	M	35700	2011-01-31 16:17	2011-02-01 11:21	19.08

Cancel **Create a planning sequence**

Workplace: 35700

Sequence name:

Description (option.):

Contact

Contact us for more information about
PROCE55 solutions:

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- » info@east-gate.eu

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