

MCP CASE STUDY - ELECTRONICS



EMAG-SERWIS Sp. z o. o. : EMAG-SERWIS finds a rich seam of efficiency improvements with Preactor

EMAG-SERWIS Sp. z o.o., based in Katowice, Poland, specializes in the manufacturing of models, prototypes, small-batch and unit production of devices designed to improve safety in the mining industry. The company's product line includes methane detectors, sensors measuring air parameters, and seismic equipment. The production of devices requires meeting high quality standards.



Thanks to funding from European Union projects - EMAG-SERWIS had already received subsidies for expansion four times - the company has a modern production line for the design and assembly of electronic products, modern CNC systems, specialist CAD/CAM software with a

measurement system, and an ultrasonic washing machine and station for conformal coating. EMAG-SERWIS also has a measurement laboratory to check the metrological parameters of the devices it manufactures.

The assembly of components is automated or semi-automatic and is based on the product's technological specification. The production process involves:-

- SMT assembly
- THT assembly
- CNC machining - milling and turning
- Chemical treatment
- Quality control

The visual inspection of products is conducted with the use of an automated optical inspection (AOI) system. The system tests sub-assemblies to detect any defects. The subassemblies are also tested on lab stations provided with anti-static laboratory tables and measuring equipment to check whether their readings are correct.

Company and product

EMAG-SERWIS Sp. z o.o. product line includes methane detectors, sensors measuring air parameters, and seismic equipment.

Key challenges

Production scheduling was based on an Excel spreadsheet

Planning was very time consuming due to the high frequency of changes

Need for frequent updating of the production schedule manually through the planner

Solution

Kurze Beschreibung der Lösung.

Key Benefits

Rapid assessment of available due dates for customer orders

Immediate response to changes, breakdowns, or material shortages

Improved efficiency of the production planning process

System architecture

ERP: Graffiti

The planning process, problems and choosing scheduling solution

Production scheduling, before the implementation of Preactor 400 APS system, was based on an Excel spreadsheet. Examples of Excel spreadsheets used by EMAG-SERWIS such as that shown below.

Due to the nature of production (mainly small and medium series), highly developed technology bill of material and routing, high frequency of changes in priority of orders etc., planning was very time consuming and laborious. The main problems for the planner included the need for frequent updating of the production schedule and setting "manually" the order of operations to be produced together with production of sub-assemblies. This process prevented the possibility of quickly identifying realistic due dates for orders. After testing several systems for managing production EMAG-SERWIS decided to purchase and implement the Preactor 400 APS scheduling solution. The key reasons for choosing Preactor included:-

- The possibility for the close integration with the ERP system "Graffiti" used by EMAG-SERWIS.
- The flexibility in terms of functionality and presentation of their production process.
- The ability to create reports based on the planner's needs.

An additional advantage was the ability to partially finance the purchase of Preactor from European Union funds under the Sectoral Operational Programme "Improvement of Competitiveness of Enterprises".

The integration with ERP and implementation was carried out by Pręczyński sp. z o.o, the Preactor Network Partner in Poland.

Benefits of the Implementation

Thanks to Preactor, EMAG-SERWIS has gained the possibility of a rapid assessment of available due dates for customer orders, and immediate response to changes, breakdowns, or material shortages. Implementation of Preactor has greatly improved the efficiency of the production planning process.

This is especially noticeable in the shorter time needed for production planning (60 - 70% less), the reduced amount retooling, the eliminating of

scheduling errors, and the especially adapted production schedules (reports) which proved to be very helpful for the production and logistics managers in optimizing warehouse processes, supply and production.

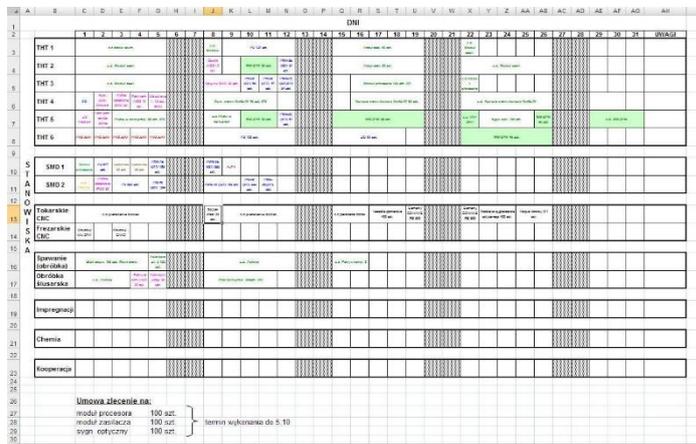
Implementation of Preactor by Pręczyński sp. z o.o. proceeded smoothly. All essential requirements for the solutions have been delivered, necessary modifications made, and training provided to the planner to make efficient use of the new planning system.

Key Benefit

60-70% less time needed for production planning

Key Benefit

Reduced amount of retooling, elimination of scheduling errors, and adapted



PLAN STANOWISKOWY THT + SMD

Stanowisko	Pracownik	6	7	8	9	10	UWAGI DL
THT 1	T. Kogut	PK (październik)	PK (październik)	PKM-08 (01.01) (październik) (2010)	PKM-08 (01.02) (październik)	PKM-08 (01.01) (październik)	
THT 2	M. Krókar	CKM/W	CKM/W	CKM/W	CKM/W	CKM/W	
THT 3	A. Jasiński	Kaseta MZT-10 (05)	Kaseta MZT-10 (05)	Kaseta MZT-10 (05)	czarna 101-010 - numer wewnętrzny 04-45124 nr 039	c.d. komory i płyta komory - 022	
THT 4	A. Musiał	ZG (wrzesień)	Sonda SP5 28 [1] szt.]	c.d. sonda	klase 101-010 - numer wewnętrzny 04-45124 nr 039		
THT 5	M. Świerczyński	x	x	x	x	x	
THT 6	M. Dereł	x	x	x	x	x	
THT 7	K. Bułtad	dokończony zasilacze MCCD i tablice	dokończony zasilacze MCCD	dokończony zasilacze MCCD	Płyta procesora MCCD (080) (09 szt.)	c.d. płyta procesora	
THT 8	Kuba	transformatory i PMS-2E	URLCP	PMS 080/010 i PMS 080/010 - komplety (08 szt.)	Płyta zasilacza za zegarem COU-SERWIS - komplety (08 szt.)	Płyta zegarowa za zegarem COU-SERWIS - komplety (08 szt.)	
SMD 1	Pracownik I	c.d. Moduł zasilacza MCCD	Płyta elektroniczna N TSA-6 28 E (058)	Płyta elektroniczna N TSA-6 28 E (058)	Płyta zegarowa za zegarem COU-SERWIS - komplety (08 szt.)	c.d. płyta komory	
SMD 2	Pracownik II	Moduł zasilacza MML-2PW (100 szt.) (08)	c.d. moduł zasilacza	Płyta zegarowa za zegarem COU-SERWIS - komplety (08 szt.)	Płyta elektroniczna N TSA-6 28 E (058)	Płyta elektroniczna N TSA-6 28 E (058)	
SMD 2	Pracownik II	c.d. moduł zasilacza	c.d. moduł zasilacza	c.d. płyty w kom. przyłączeniowej	Płyta elektroniczna N TSA-6 28 E (058)	Płyta zegarowa za zegarem COU-SERWIS - komplety (08 szt.)	
BIENICJA		Mod [szt.]	Zaczenie	Materiały	Pracownicy	Terminy	
Transformator TML-100-020	400	043/08, 085/08			2		
Transformator TPL-101	6	010/08			4		
Transformator TPL-01	1	048/08			2		
Transformator TPL-043	40	053/08, 078/08			2		
Transformator TPL	100	053/2008			2		
Transformator TPL-01	17	058/08			1 (2 szt.)		
Transformator TML-100-020	130	091/08			3 (30 szt.)		
Całok - transformator TML-100	130	098/08			4 (16 szt.)		
Transformator TPL	600	075/08, 056/08, 088/08			2		
Transformator TPL-10	120	053/08, 072/2008			2		
Transformator szeregowy TPL-10	17	088/08			1 (2 szt.)		

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