Eltronic

INDUSTRIAL INNOVATION

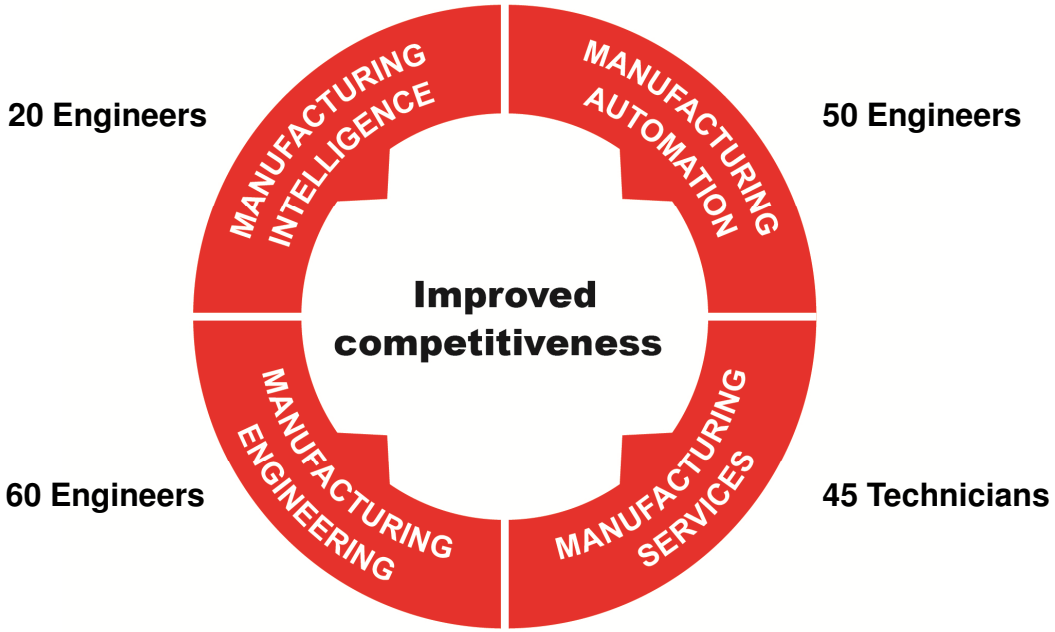
© 2012 Eltronic A/S - Confidential

Agenda

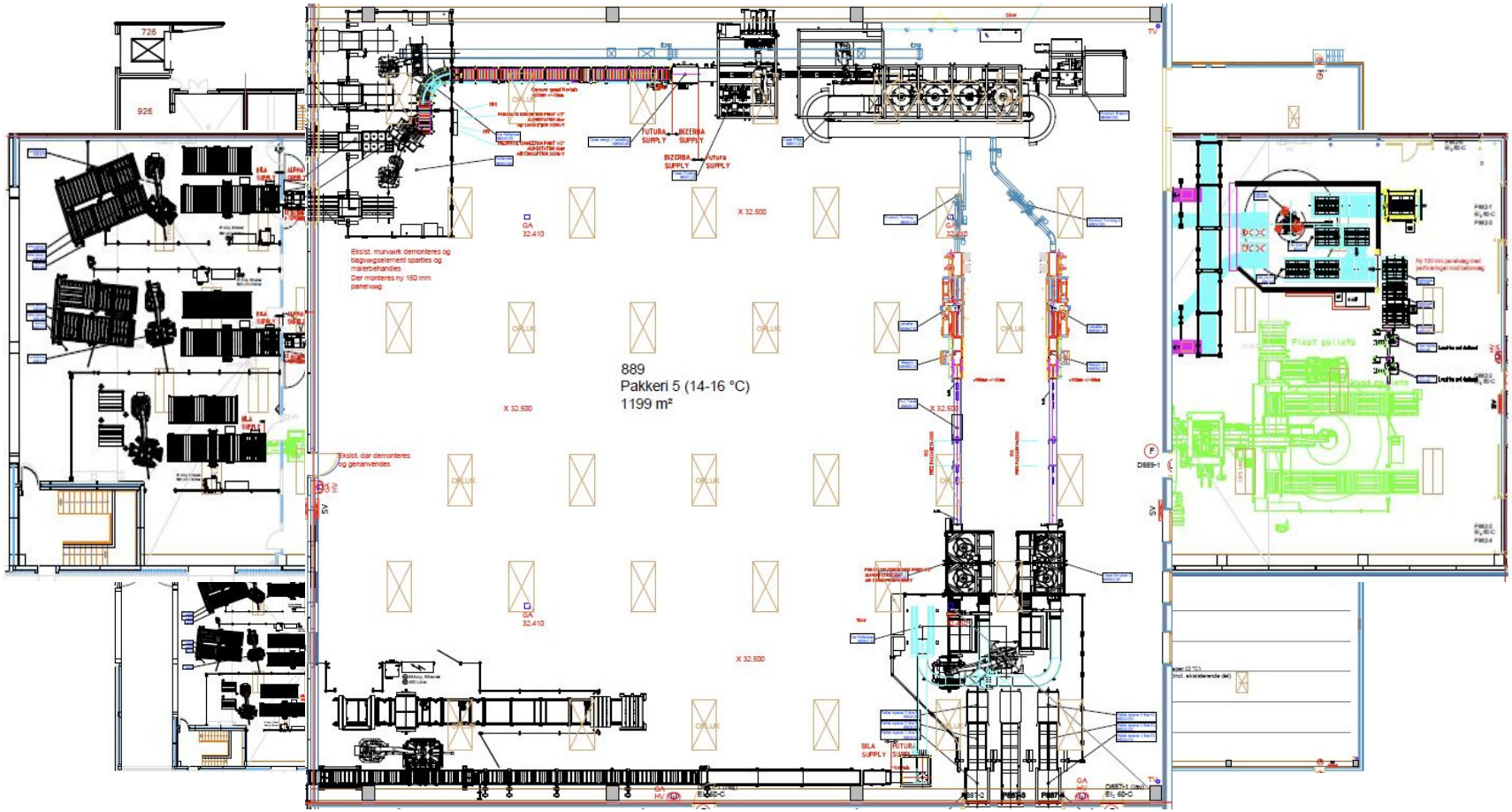
- **Beskrivelse af aktuel case**
- **Teknik brugt i den aktuelle case**
- **Erfaringer fra både den aktuelle case og et 'green field' projekt i Asien.**

Ole Høed Nørlev
Business unit manager, Food & Beverage
ohn@eltronic.dk
+45 51 56 86 71

Lige en slide om Eltronic.....



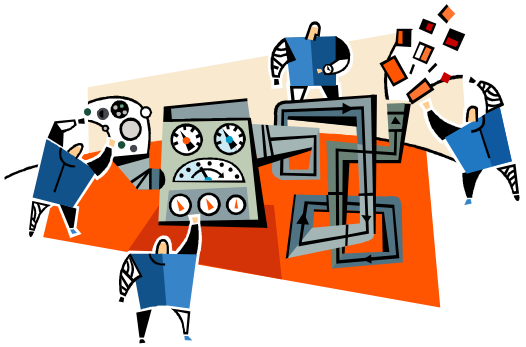
Layout



Mål for linjerne: Højste kapacitet og mest effektive i Arla

- **Målet med linje styringen**

  Sammenkobling
  Nemmere opstart
  Nemmere start efter fejl
  Større overblik
  Målinger på de enkelte maskiner/udstyr
  Erfaringsopsamling
  Standardisering, så ændringer i linjen bliver nemmere
  'Standard maskiner' med overbygning



System overblik

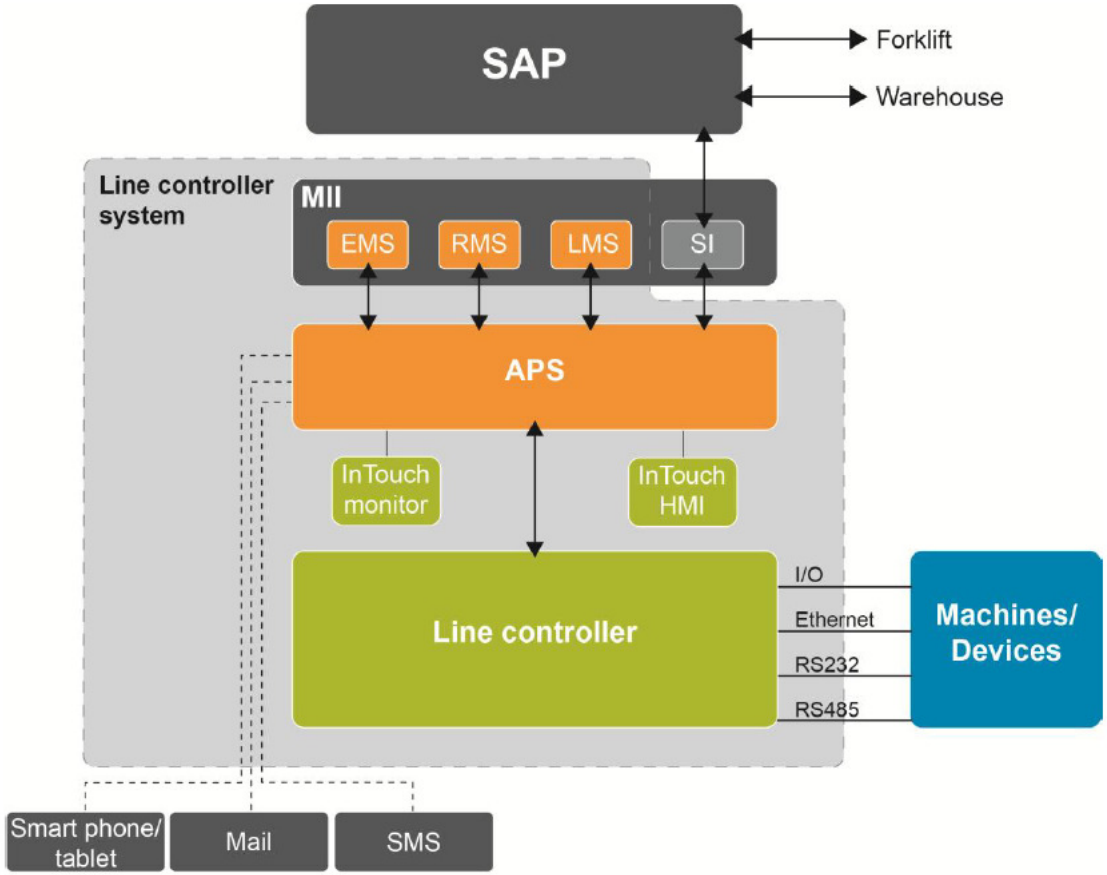
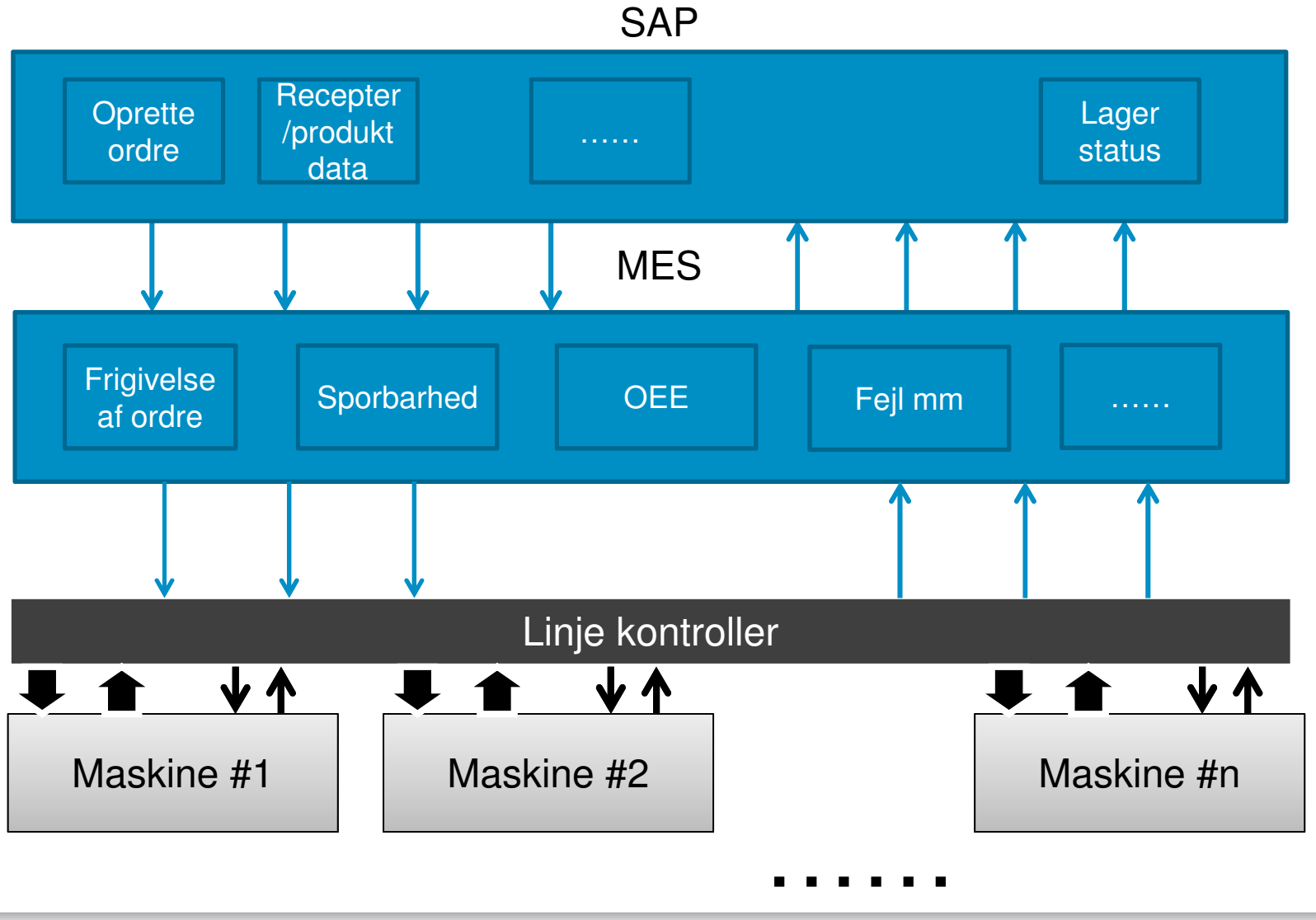
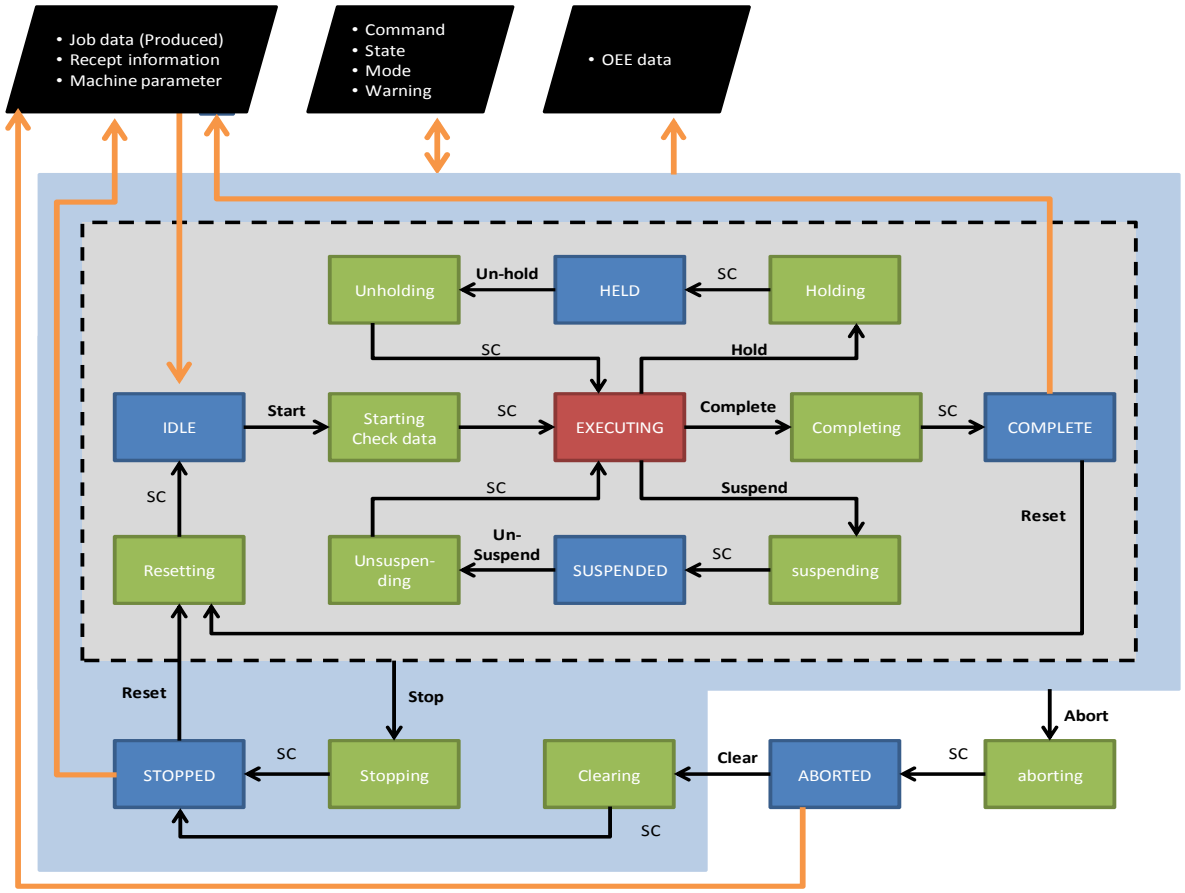


Figure 1.1 The Line Controller System

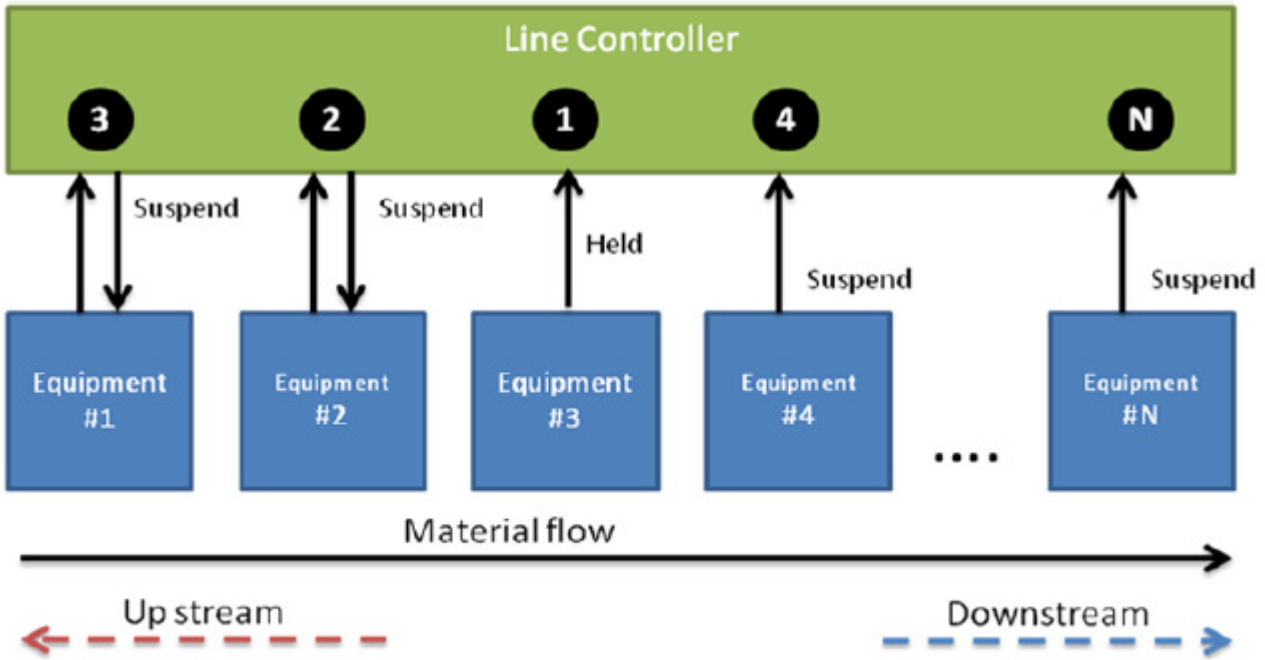
Linje kontrol princip



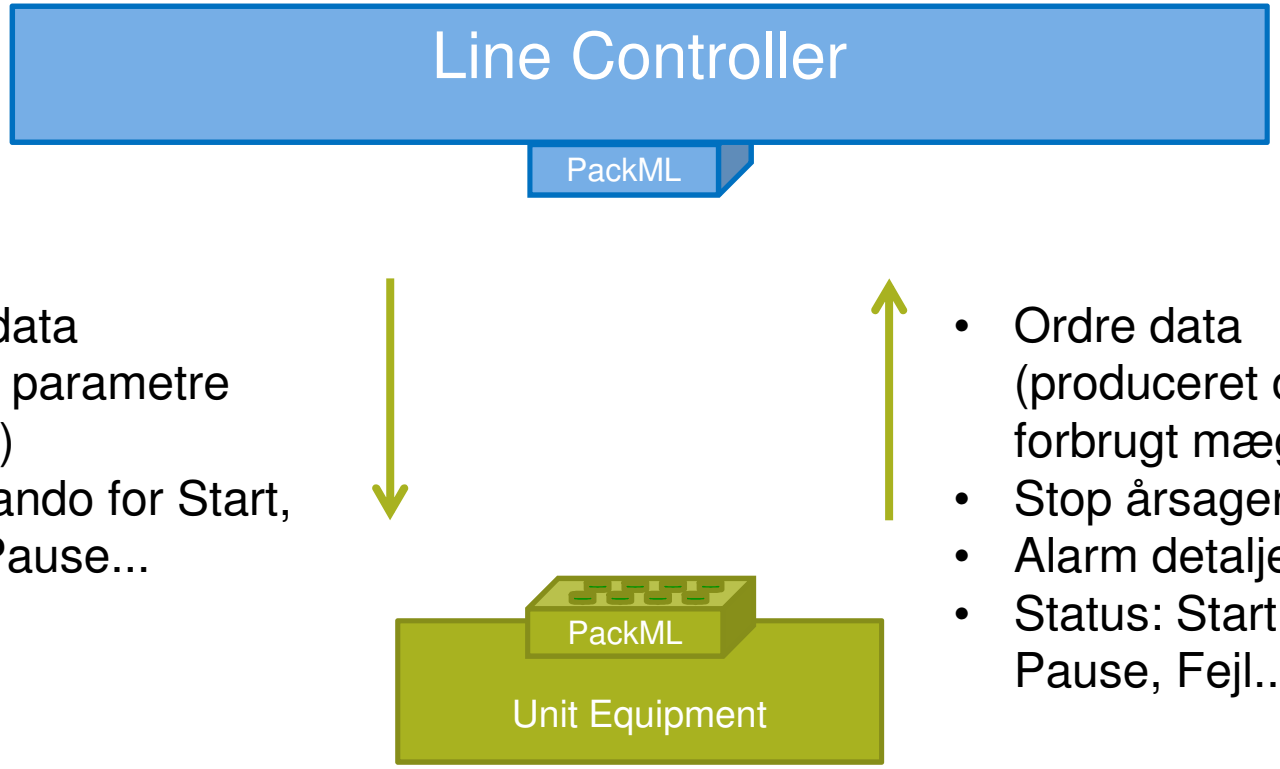
PackML model



Linje kontrol princip



PackML



- Ordre data
- Proces parametre (recept)
- Kommando for Start, Stop, Pause...

- Ordre data (produceret og forbrugt mægde)
- Stop årsager for OEE
- Alarm detaljer
- Status: Start, Drift, Pause, Fejl...

En smule teknik

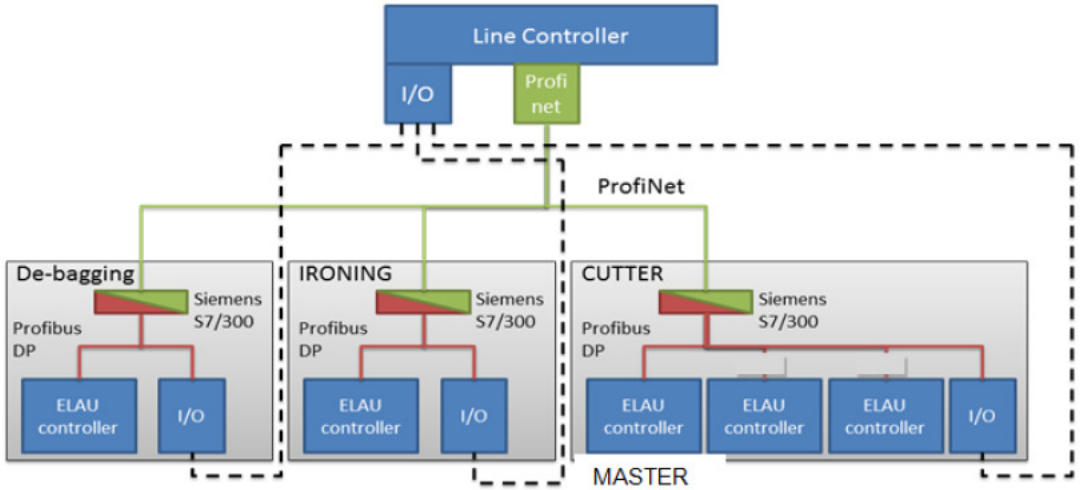
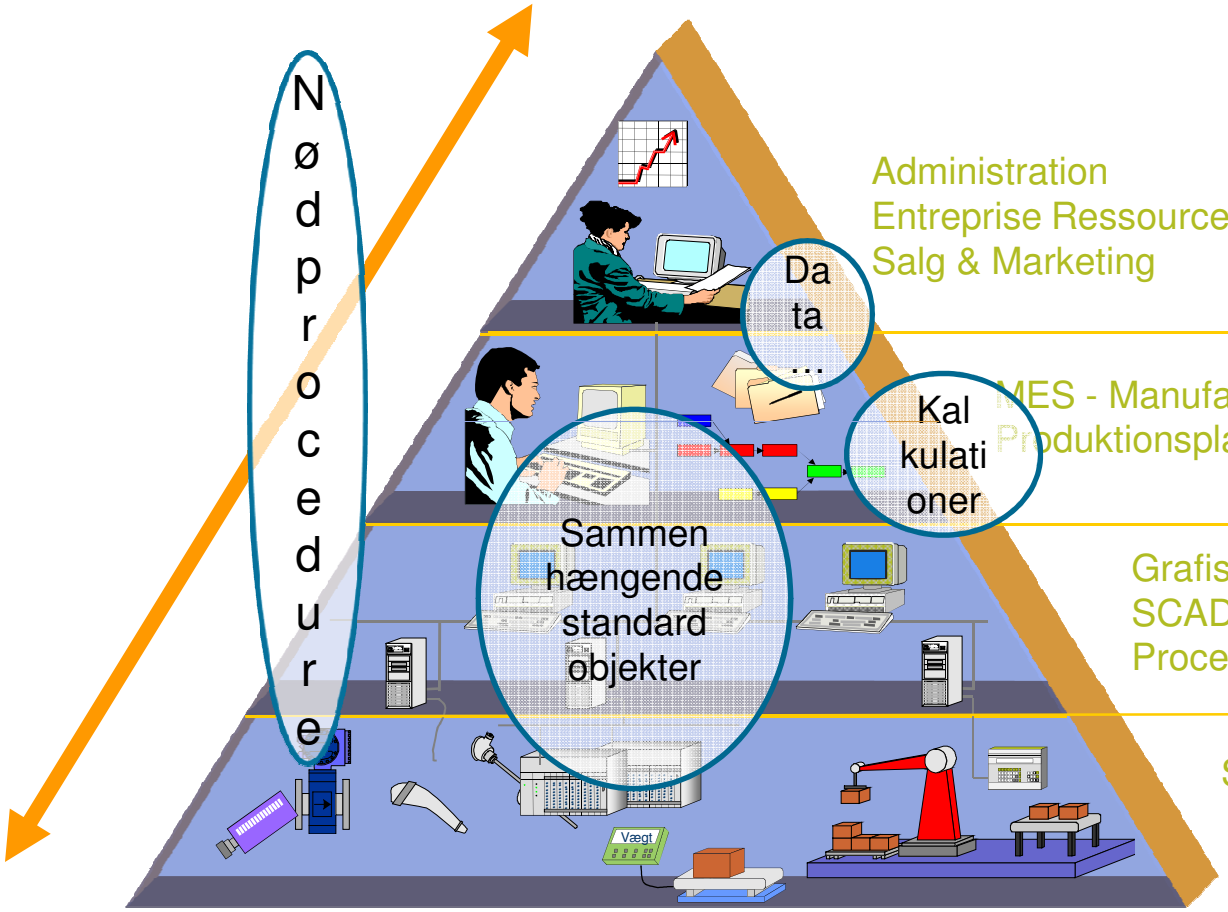


Figure 2.2 Example of interfaces between the LC and the machines

Forarbejde



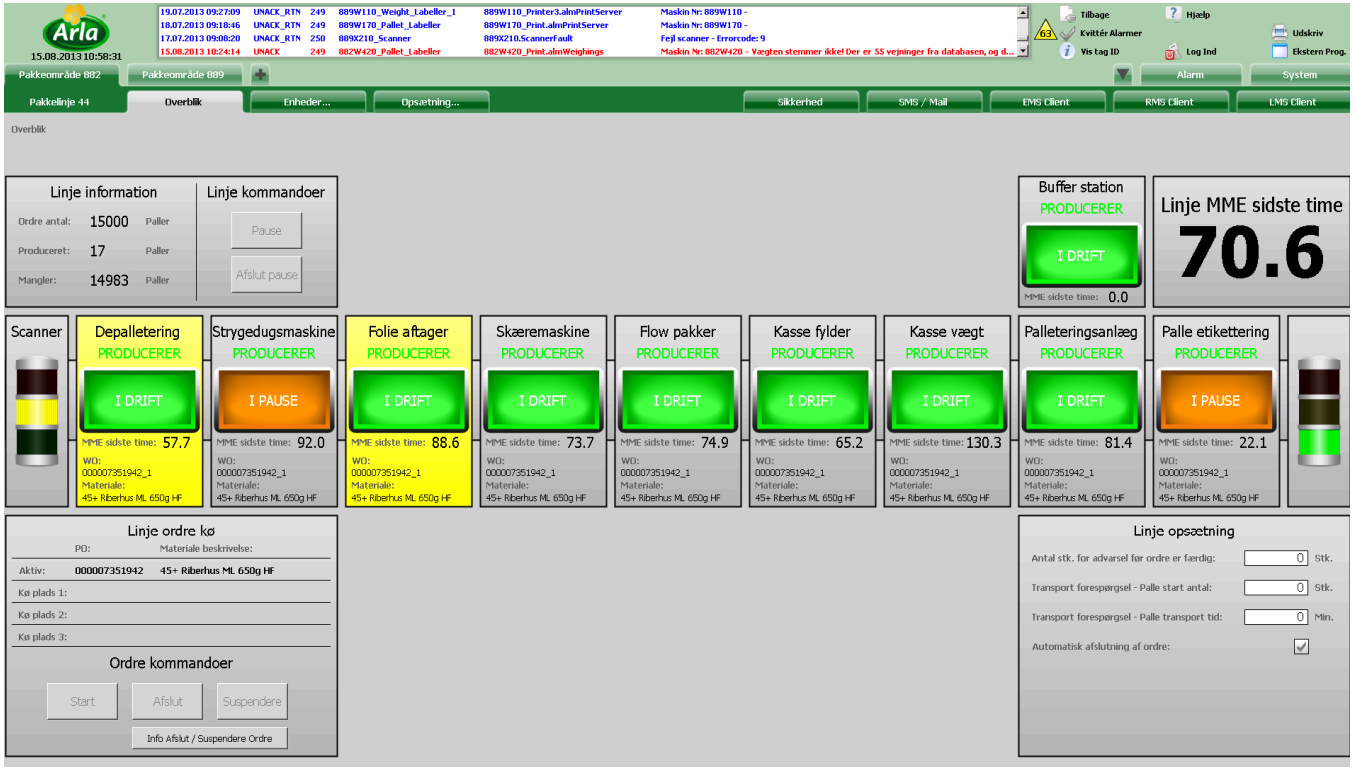
Administration
Entreprise Ressource Planning
Salg & Marketing

MES - Manufacturing Execution System
Produktionsplanlægning/styring

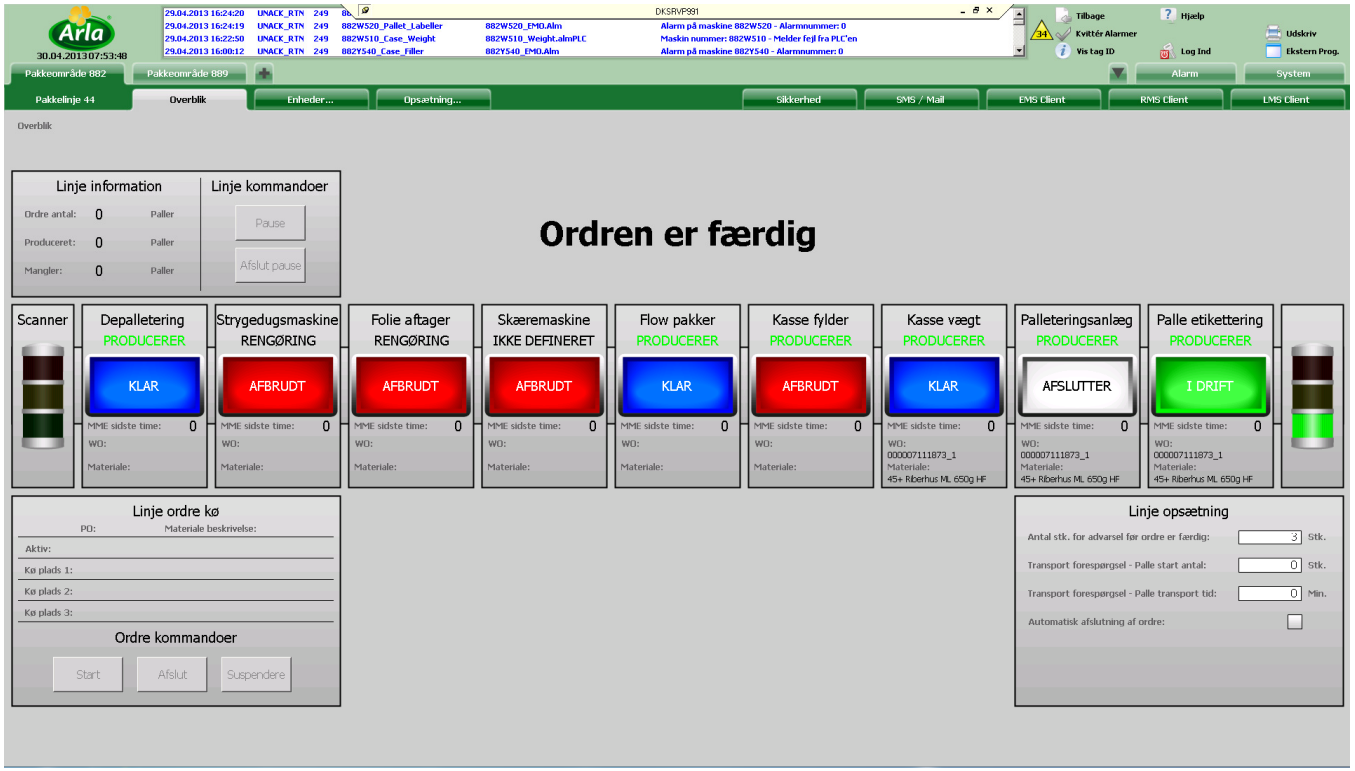
Grafisk præsentation af procesdata
SCADA system
Proceskontrol

Styring og regulering (PLC)
- Styring
- Regulering og
- Dataopsamling fra produktionen

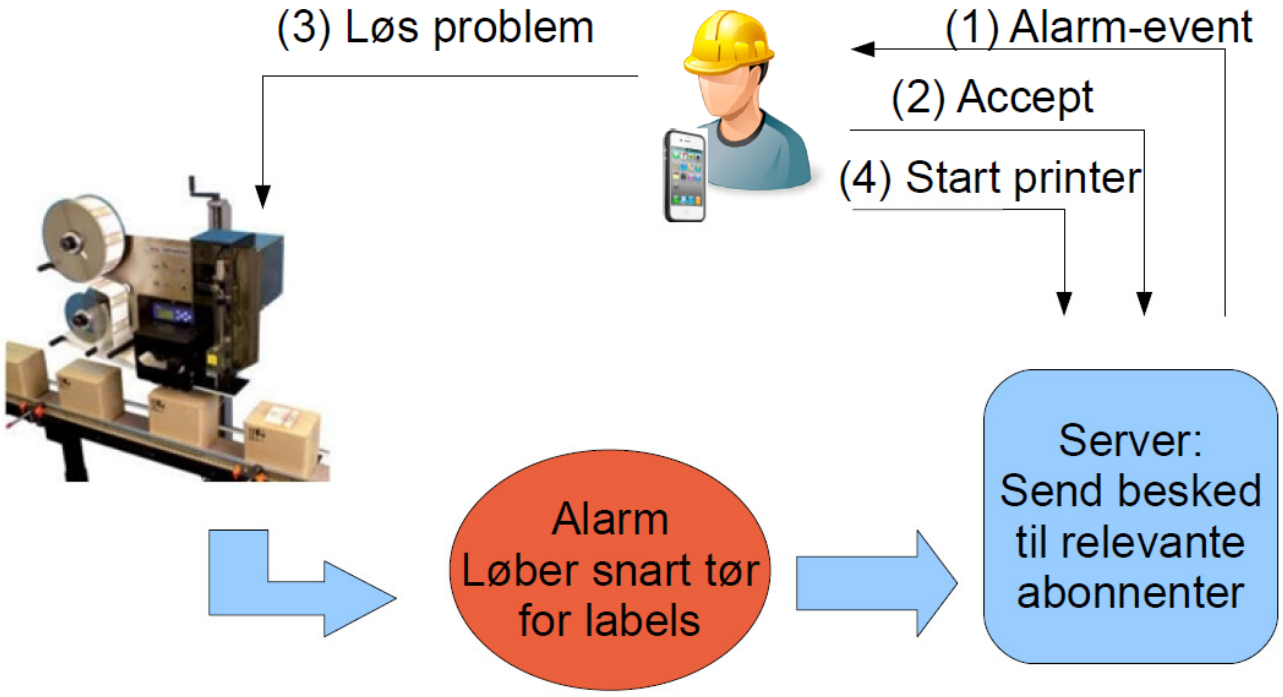
Eksempel fra implementering



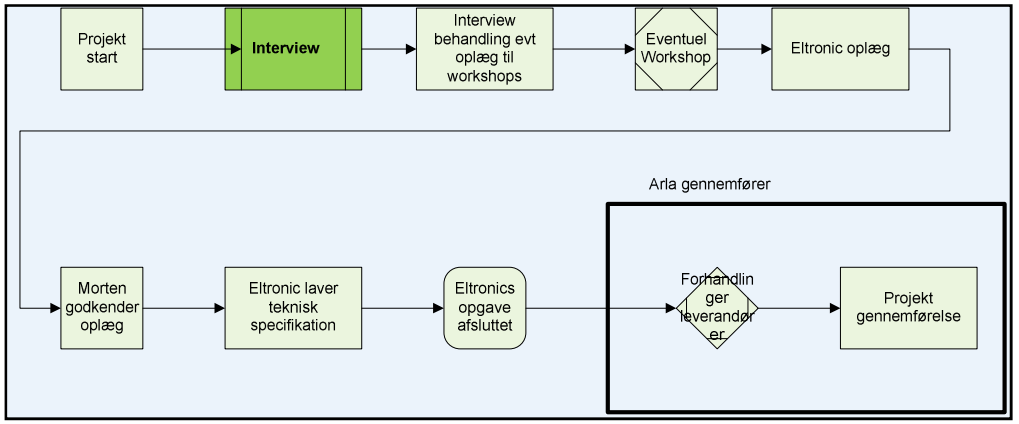
Eksempel fra implementering



Alarmering, interaktion (fase 2)

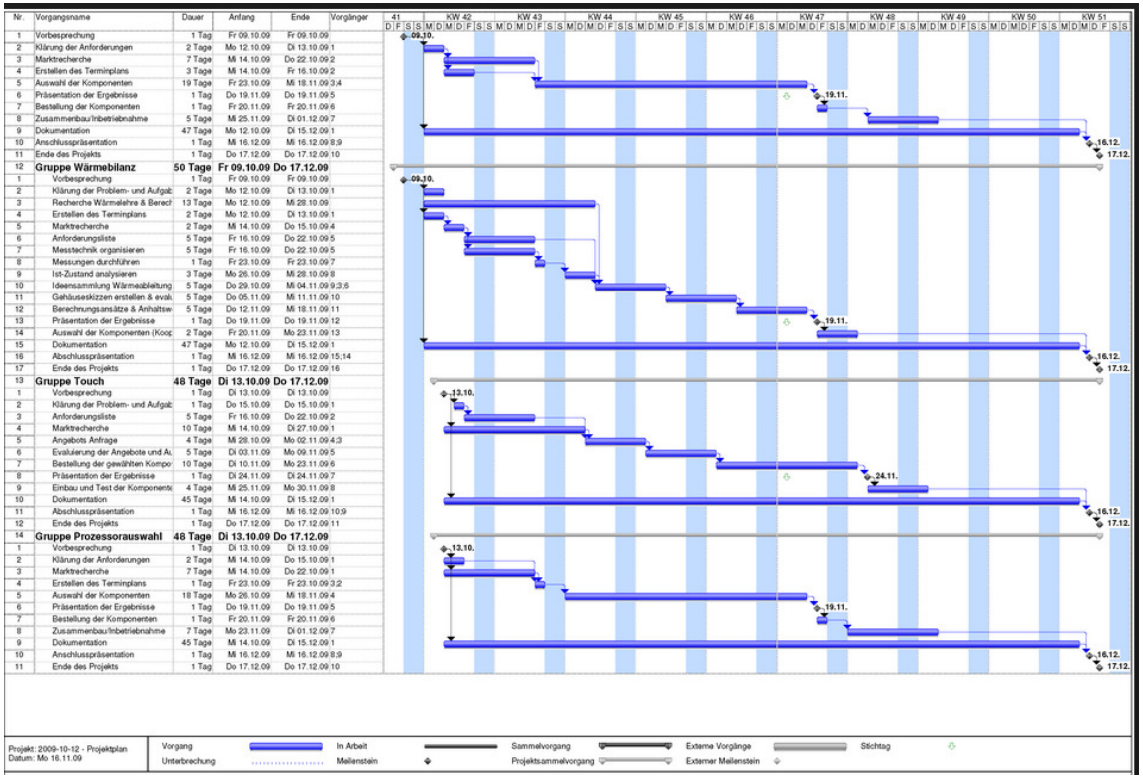


Projekt forløbet



- QEHS
- Produktionsplanlægning
- Linjestyring
- Logistik
- Vedligehold
- Træning

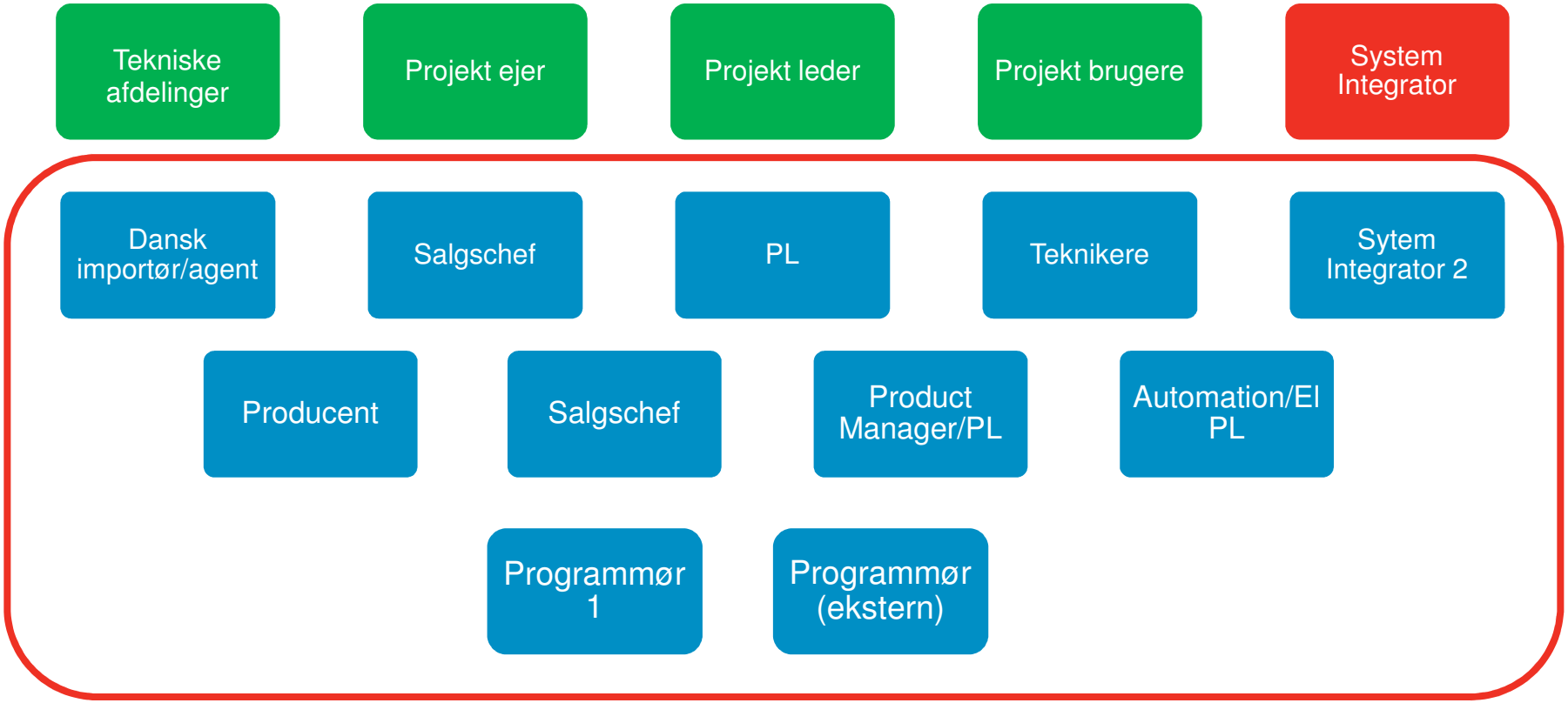
Projekt forløb



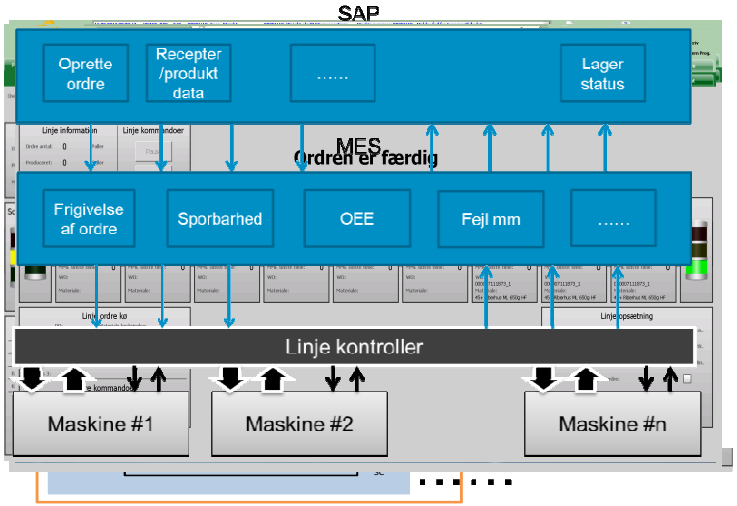
Nr.	Vorgangsname	Dauer	Anfang	Ende	Vorgänger
1	Vorbesprechung	1 Tag	Fr 09.10.09	Fr 09.10.09	
2	Klärung der Anforderungen	2 Tage	Mo 12.10.09	Di 13.10.09	1
3	Marktrecherche	7 Tage	Mi 14.10.09	Do 22.10.09	2
4	Erstellen des Terminplans	3 Tage	Mi 14.10.09	Fr 16.10.09	2
5	Auswahl der Komponenten	19 Tage	Fr 23.10.09	Mi 18.11.09	3;4
6	Präsentation der Ergebnisse	1 Tag	Do 19.11.09	Do 19.11.09	5
7	Bestellung der Komponenten	1 Tag	Fr 20.11.09	Fr 20.11.09	6
8	Zusammenbau/Inbetriebnahme	5 Tage	Mi 25.11.09	Di 01.12.09	7
9	Dokumentation	47 Tage	Mo 12.10.09	Di 15.12.09	1
10	Anschlusspräsentation	1 Tag	Mi 16.12.09	Mi 16.12.09	8;9
11	Ende des Projekts	1 Tag	Do 17.12.09	Do 17.12.09	10
12	**Gruppe Wärmebilanz**	**50 Tage**	**Fr 09.10.09**	**Do 17.12.09**	
1	Vorbesprechung	1 Tag	Fr 09.10.09	Fr 09.10.09	
2	Klärung der Problem- und Aufgab	2 Tage	Mo 12.10.09	Di 13.10.09	1
3	Recherche Wärmelehre & Berech	13 Tage	Mo 12.10.09	Mi 28.10.09	
4	Erstellen des Terminplans	2 Tage	Mo 12.10.09	Di 13.10.09	1
5	Marktrecherche	2 Tage	Mi 14.10.09	Do 15.10.09	4
6	Anforderungsliste	5 Tage	Fr 16.10.09	Do 22.10.09	5
7	Messtechnik organisieren	5 Tage	Fr 16.10.09	Do 22.10.09	5
8	Messungen durchführen	1 Tag	Fr 23.10.09	Fr 23.10.09	7
9	Ist-Zustand analysieren	3 Tage	Mo 26.10.09	Mi 28.10.09	8
10	Ideensammlung Wärmeableitung	5 Tage	Do 29.10.09	Mi 04.11.09	9;3;6
11	Gehäuseskizzen erstellen & evalu	5 Tage	Do 05.11.09	Mi 11.11.09	10
12	Berechnungsansätze & Anhaltsw	5 Tage	Do 12.11.09	Mi 18.11.09	11
13	Präsentation der Ergebnisse	1 Tag	Do 19.11.09	Do 19.11.09	12
14	Auswahl der Komponenten (Koop	2 Tage	Fr 20.11.09	Mo 23.11.09	13
15	Dokumentation	47 Tage	Mo 12.10.09	Di 15.12.09	1
16	Abschlusspräsentation	1 Tag	Mi 16.12.09	Mi 16.12.09	15;14
17	Ende des Projekts	1 Tag	Do 17.12.09	Do 17.12.09	16
13	**Gruppe Touch**	**48 Tage**	**Di 13.10.09**	**Do 17.12.09**	
1	Vorbesprechung	1 Tag	Di 13.10.09	Di 13.10.09	
2	Klärung der Problem- und Aufgab	1 Tag	Do 15.10.09	Do 15.10.09	1
3	Anforderungsliste	5 Tage	Fr 16.10.09	Do 22.10.09	2
4	Marktrecherche	10 Tage	Mi 14.10.09	Di 27.10.09	1
5	Angebots Anfrage	4 Tage	Mi 28.10.09	Mo 02.11.09	4;3
6	Evaluierung der Angebote und Au	5 Tage	Di 03.11.09	Mo 09.11.09	5
7	Bestellung der gewählten Kompo	10 Tage	Di 10.11.09	Mo 23.11.09	6
8	Präsentation der Ergebnisse	1 Tag	Di 24.11.09	Di 24.11.09	7
9	Einbau und Test der Komponente	4 Tage	Mi 25.11.09	Mo 30.11.09	8
10	Dokumentation	45 Tage	Mi 14.10.09	Di 15.12.09	1
11	Abschlusspräsentation	1 Tag	Mi 16.12.09	Mi 16.12.09	10;9
12	Ende des Projekts	1 Tag	Do 17.12.09	Do 17.12.09	11
14	**Gruppe Prozessorauswahl**	**48 Tage**	**Di 13.10.09**	**Do 17.12.09**	
1	Vorbesprechung	1 Tag	Di 13.10.09	Di 13.10.09	
2	Klärung der Anforderungen	2 Tage	Mi 14.10.09	Do 15.10.09	1
3	Marktrecherche	7 Tage	Mi 14.10.09	Do 22.10.09	1
4	Erstellen des Terminplans	1 Tag	Fr 23.10.09	Fr 23.10.09	3;2
5	Auswahl der Komponenten	18 Tage	Mo 26.10.09	Mi 18.11.09	4
6	Präsentation der Ergebnisse	1 Tag	Do 19.11.09	Do 19.11.09	5
7	Bestellung der Komponenten	1 Tag	Fr 20.11.09	Fr 20.11.09	6
8	Zusammenbau/Inbetriebnahme	7 Tage	Mo 23.11.09	Di 01.12.09	7
9	Dokumentation	45 Tage	Mi 14.10.09	Di 15.12.09	1
10	Anschlusspräsentation	1 Tag	Mi 16.12.09	Mi 16.12.09	8;9
11	Ende des Projekts	1 Tag	Do 17.12.09	Do 17.12.09	10

Projekt 'organisation' med leverandører

Projekt 'organisation' med 1 (EN) leverandør



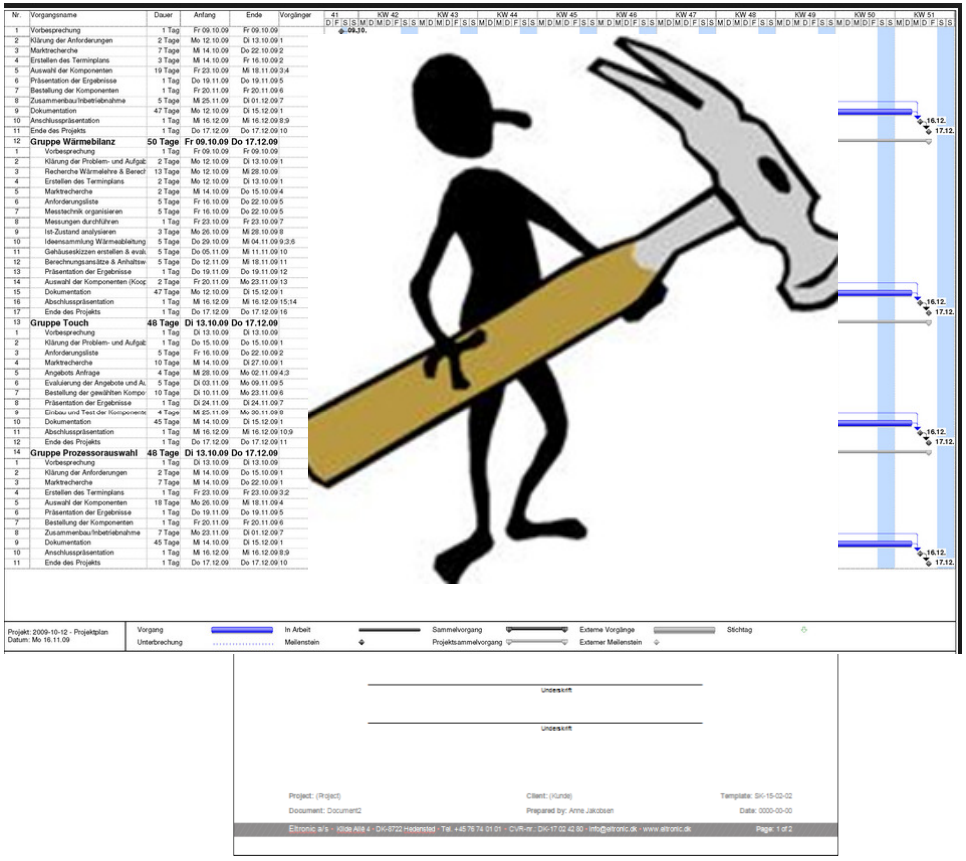
Opsummering omkring målene



- Sammenkobling
- Nemmere opstart
- Nemmere start efter fejl
- Større overblik
- Målinger på de enkelte maskiner/udstyr
- Erfaringsopsamling
- Standardisering, så ændringer i linjen bliver nemmere
- Standard maskiner' med overbygning

De vigtigste ting

- Kontrakt
- Projektledelse
- Vedligeholdelse



Eltronic

INDUSTRIAL INNOVATION

© 2012 Eltronic A/S - Confidential

International engineering consultancy

We deliver intelligent solutions in close collaboration with our customer

Objectives

- **Help companies enhance their global competitiveness**

Through optimization of production and manufacturing IT, Eltronic will create a foundation for our customers where they can compete and sell products globally

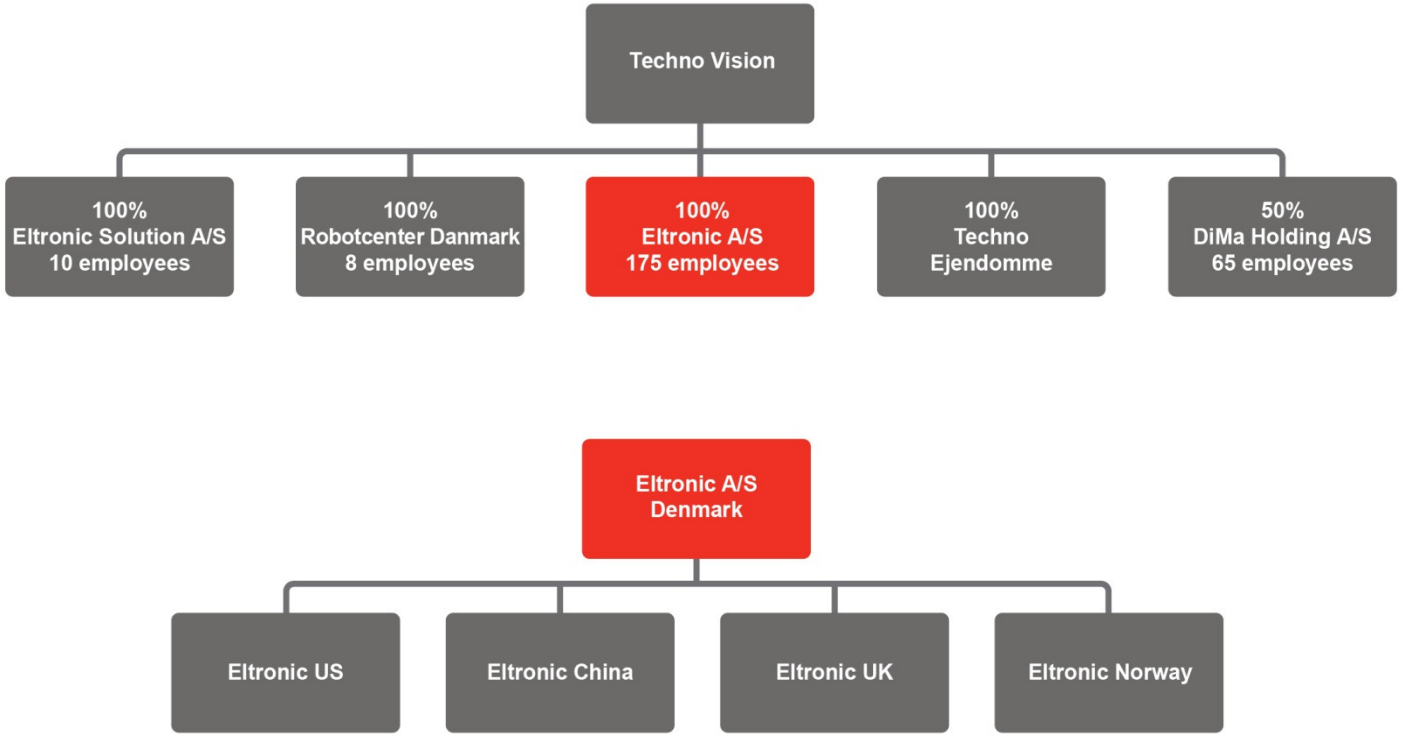
- **Create tangible, measurable and continuously improvements**

Through controlled processes from idea to outcome Eltronic ensure that projects are carried out optimally with maximum benefit for the production company

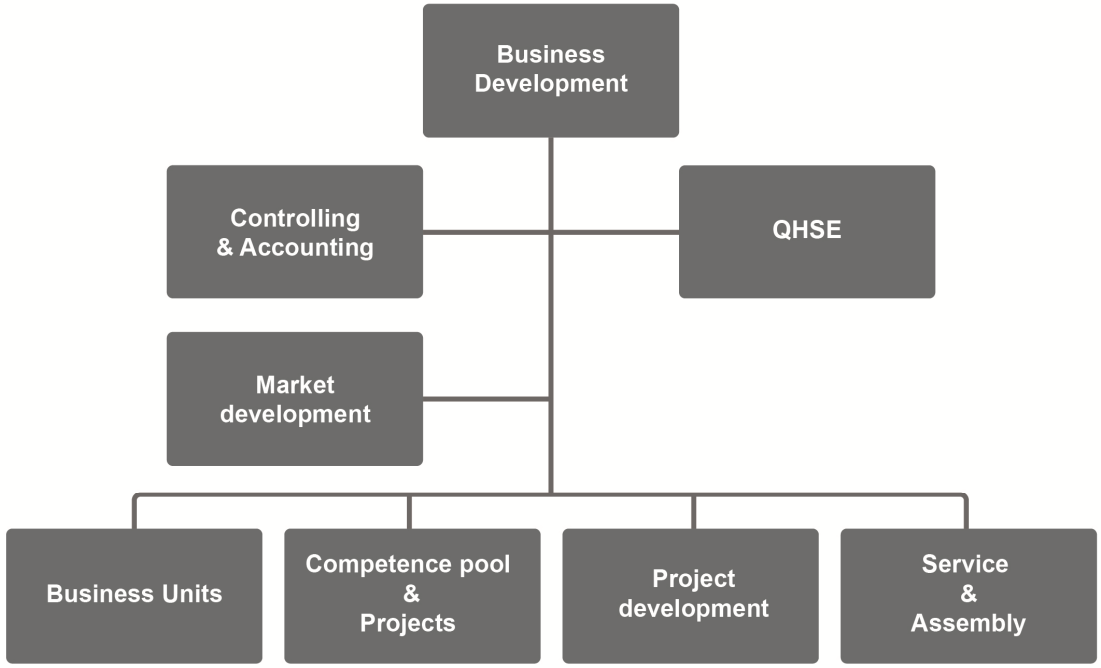
- **Apply the latest knowledge and technologies, tools and experience**

Through knowledge and experience and by applying the latest technologies and tools Eltronic creates a unique solution to every task without depending on specific product types.

Techno Vision Group



Organisation



Selected company milestones

2000
- Establishing Eltronic A/S
- Automation, Manufacturing IT og Electronics
- Office at Spettrupvej 7A in Hedensted

2003
- Expansion of activities
- Design of customer-specific production equipment
- Extention of office facilities at Spettrupvej
- Establishing test facilities

2005
- Electronics activities are moved to Eltronic Solution A/S, manufacturing in Suzhou PRC,
- IT activities is expanded to also deal with OEE, Factory databases and system integration

2007
- Establishing more test facilities
- Extention of office facilities

2008
- Design of new headquarter in collaboration between Engineers, Architects and Employees at Eltronic

2010
- Opening of Kilde Allé 4
- Positioning within 5 main segments

2012
- Extension of office facilities on Kilde Allé 4
- Internationalization – Project office in Southampton, UK and company establishment in US & CN

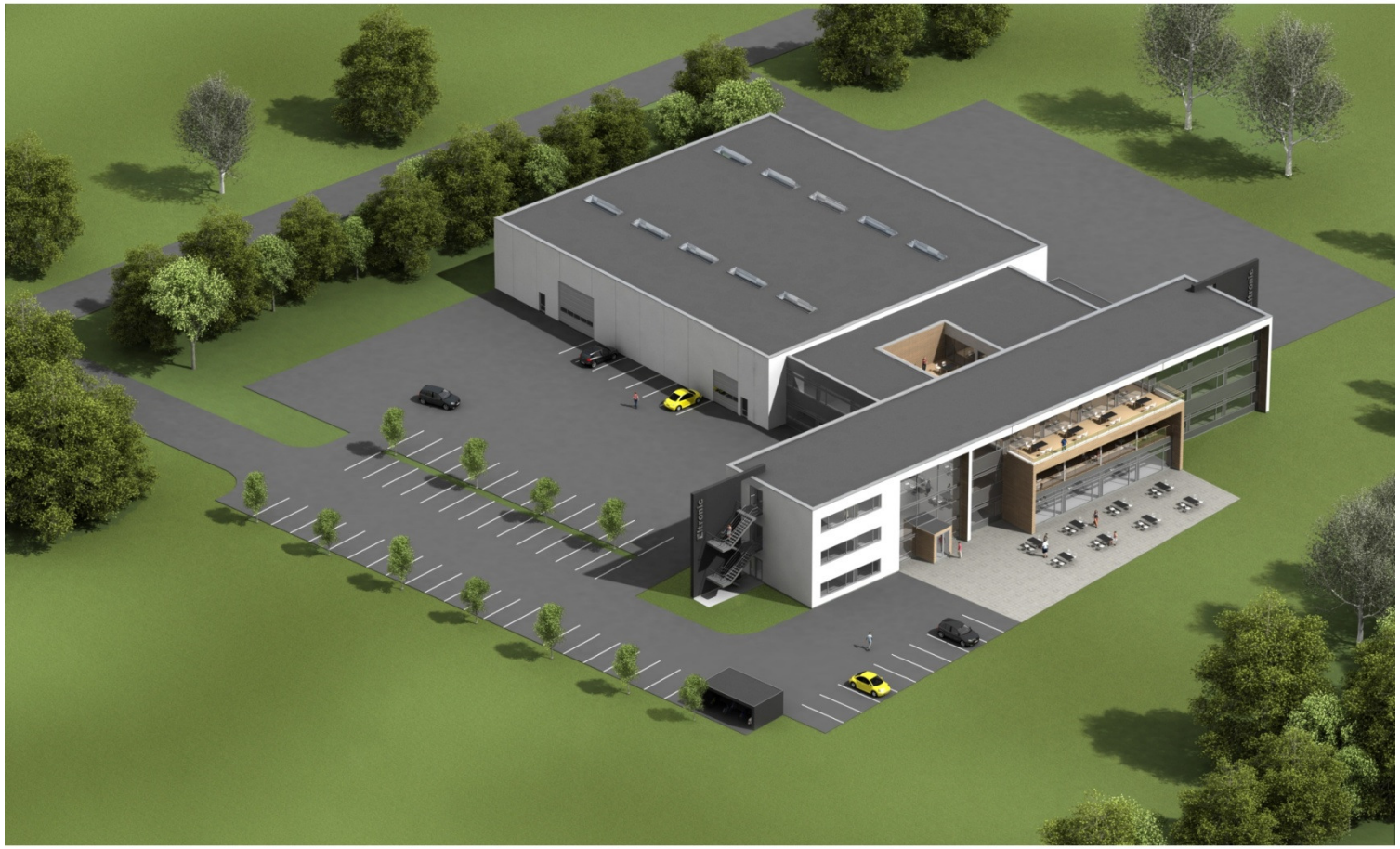
Financial figures

Seen over a three-year period, the development of the company is described by the following highlights:

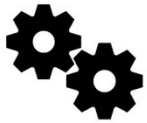
	2011/12	2010/11	2009/10	2008/09
Gross profit	100.914	76.144	55.796	45.281
Net profit for the year	9.964	8.411	5.369	6.301
Balance sheet				
Balance sheet total	65.397	56.938	46.791	41.590
Equity	17.819	12.855	9.444	8.401
Employees				
Number of employees	157	120	92	82
Ratios				
Solvency ratio	27,2%	22.6%	20,2%	20,2%

TDKK

Engineering and test facilities



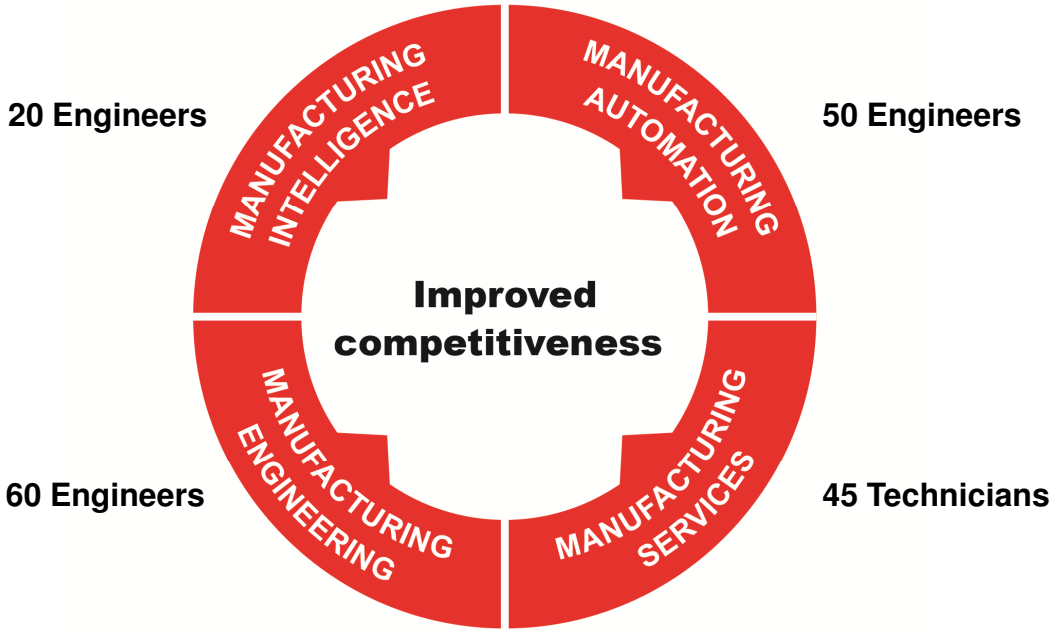
Our services



Identify	Ideate	Design	Build	Test	Maintain
• Innovation potentials	• Workshops	• Software/hardware	• Quality suppliers	• Factory acceptance test	• Reliable service
• User requirements	• Solution concepts	• Risk assessments	• Assembly & fitting	• Site acceptance test	• Remote support
• Business cases	• Specifications	• Calculations	• Installation	• Commissioning	• After sales

Our services

Lige en slide om Eltronic.....



Know-how

Concept development

- 3D studio max
- V-ray
- Adobe CS5
- Process storyboards
- Workshop facilitation
- Digital sketching

MES systems og Database

- Wonderware, System platform
- Wonderware MES
- Proficy plant Application
- MS-SQL server & reporting services
- Oracle

CE & risk analysis

- Machinery directive
- EMC og low voltage directive
- ATEX directive
- UL

PLC systems

- Siemens
- Rockwell
- Omrom
- B&R

CAD (mechanical)

- PRO-E
- SolidWorks
- Autodesk inventor
- AutoCad
- MathCad

CAD (electrical)

- CADdy
- E-Plan
- PCSchematic
- Autocad-Electrical

SCADA systems

- Wonderware InTouch
- Siemens WinCC
- Proficy iFIX
- Rockwell RSView

Robot & Vision

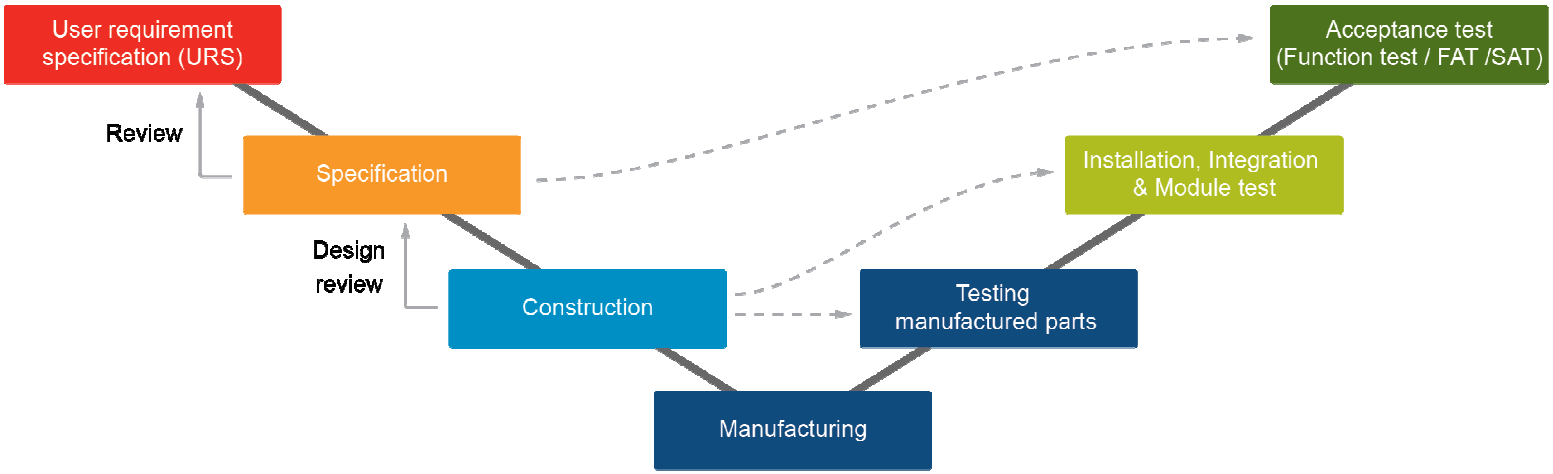
- ABB
- Motoman
- Kuka
- DVTvision

Industrial Network

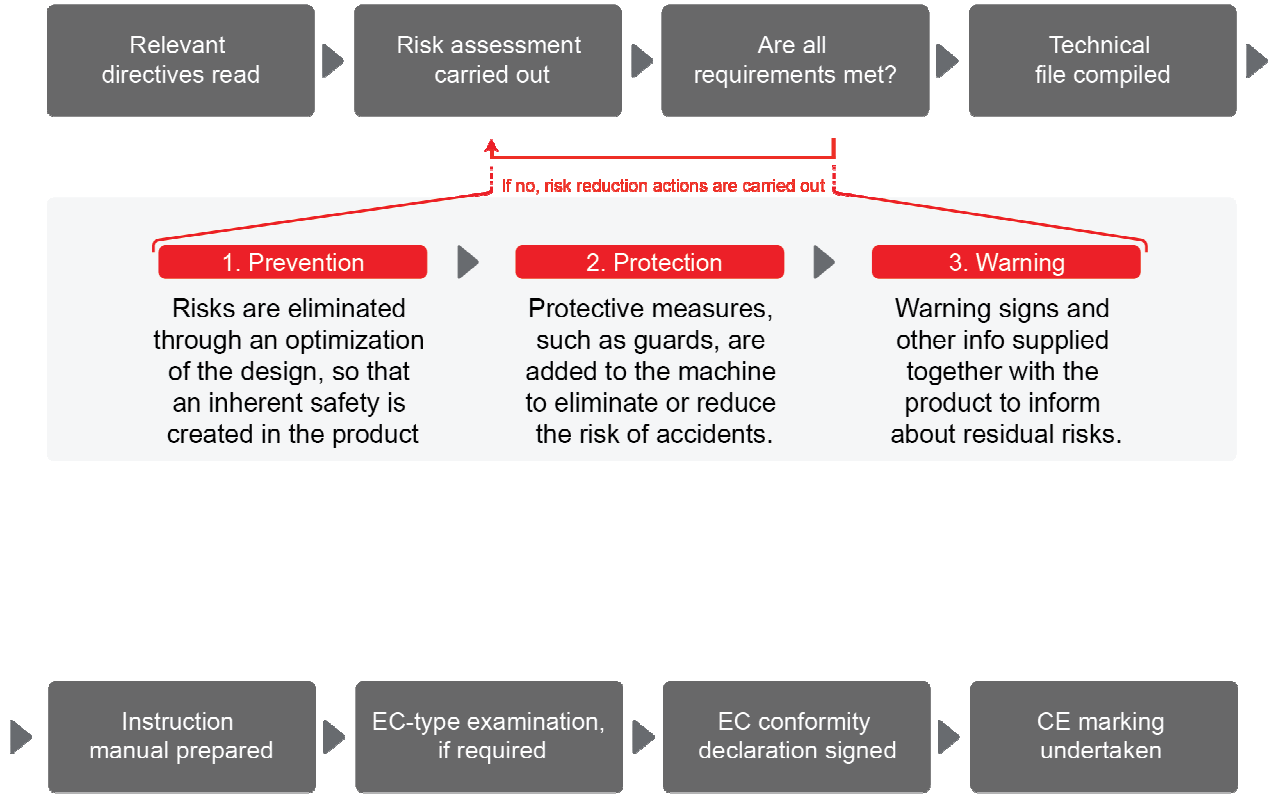
- Ethernet
- Profibus
- AS-i-bus
- Device-net

Project model

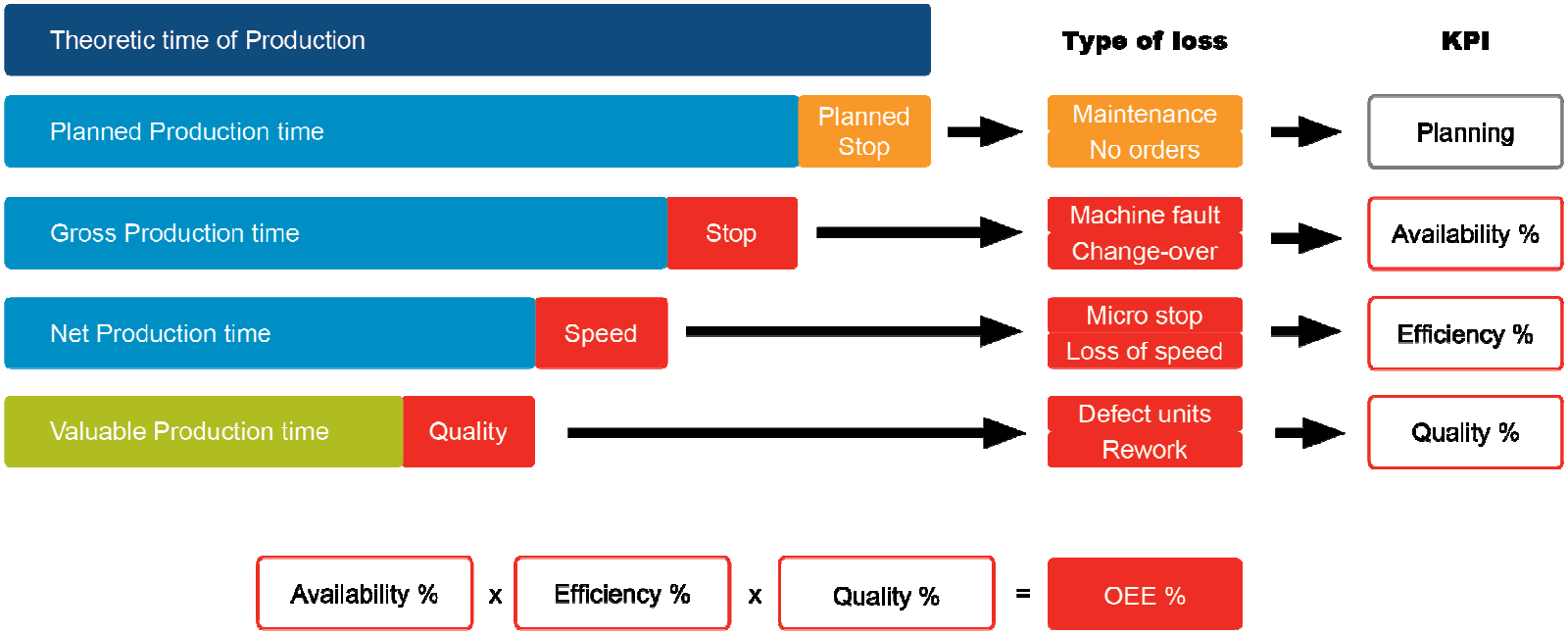
Based on ISO9001 & GAMP5



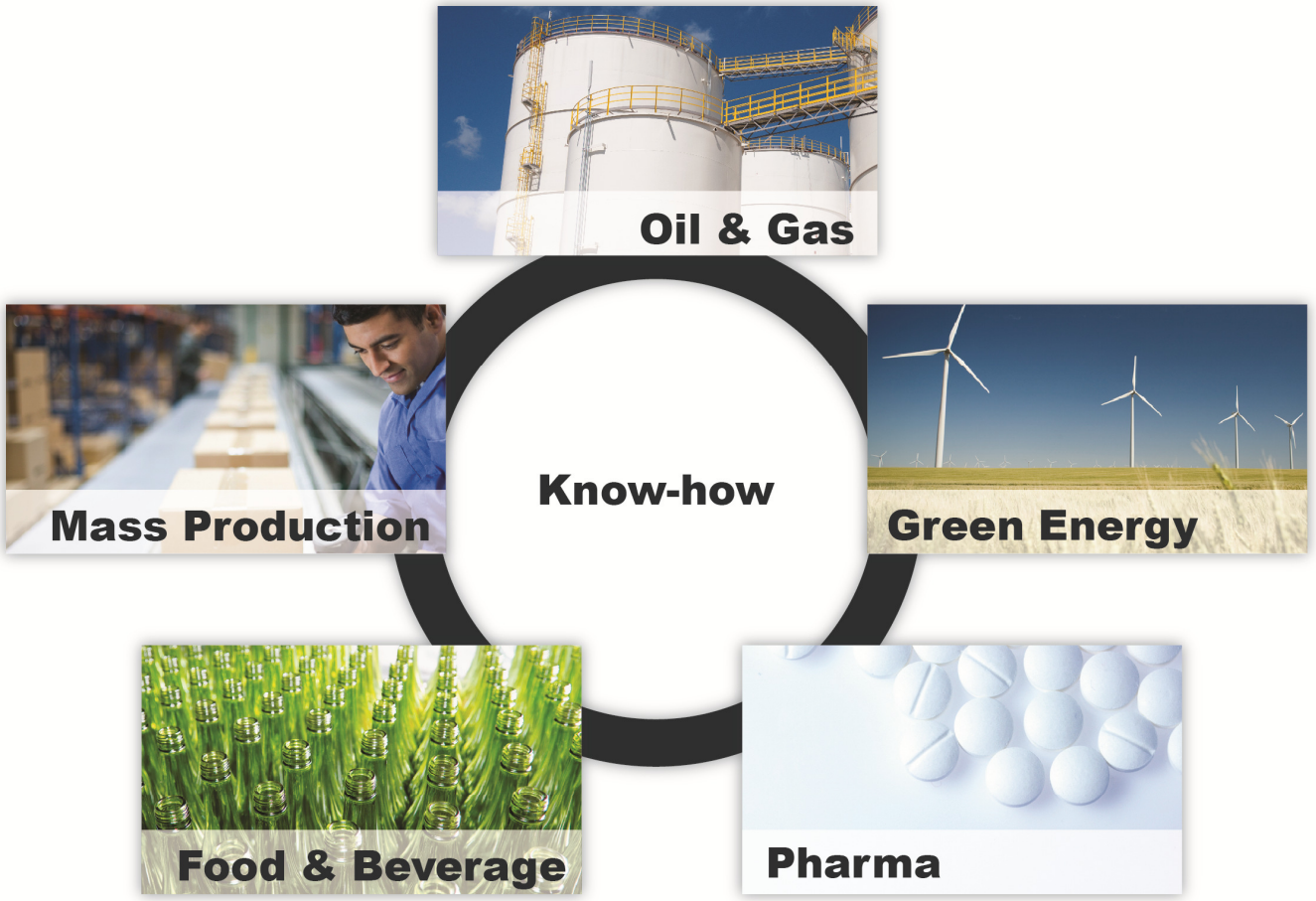
CE marking and safety of Machinery



OEE - Overall Equipment Efficiency



Business Units



References

MAN

Vestas

Danfoss

Carlsberg

novo nordisk

MÆRSK

SIEMENS

GRUNDFOS

DANISH CROWN

fertin
Pharma

oreco

LINAK
WE IMPROVE YOUR LIFE

LEGO

Arla

Palsgaard®

gazcon

Schur®

HYDRO

TULIP

pressalit
Seats for your senses

AIR LIQUIDE

Nissens

gumlink

Rynkeby

Graasten

Eltronic

”We help companies enhance their global competitiveness”

Thank you for your attention

© 2011 Eltronic A/S