



# APC Asian Production & Components ApS Outsourcing

## From idea to finished product in China

APC ApS is a Danish-Chinese outsourcing company that produces custom designed components and finished products in China:

- Electronic Manufacturing Services (EMS), Box Build (Mechatronics)
- Plastic and Aluminium injection molding and manufacturing of molds.
- Aluminium and Steel machining and Cast Iron
- Custom design electronic components:  
PCB, Optoelectronics, LCD, Transformers, Power Supply,  
Cable and Wireharness, Membrane Switches.
- Product development and design in hardware, software, PCB layout,  
EMC testing, 3D engineering drawing and prototyping
- ISO 13485 (Medical), ISO 9001:2002, ISO 14001, QS9000, TS 16949

Awards:



APC Danmark - APC Hong Kong / Shenzhen - APC Shanghai

APC Asian Production & Components ApS - Sundkrogen 35 - DK 6400 Sønderborg

Tlf: +45 74 48 50 05 Fax: +45 74 48 50 45 E-Mail: [apc@apc.as](mailto:apc@apc.as) Web: [www.apc.as](http://www.apc.as)

Shanghai



# APC Asian Production & Components ApS

## Customers advantages

APC has a large portfolio of customers at selected specialist manufacturers in China, with whom APC has a close and long term cooperation. This combined with cultural insight and years of operating and networking in China gives our customers following advantages:

- Better prices, equivalent to clean factory prices.
- Suppliers accept smaller quantities than usual in China.
- Better service, attention and flexibility from supplier.
- Easy communication, as contact is maintained by APC. No misunderstandings caused by cultural and linguistic differences.
- 

APC has offices in Shanghai, and Hong Kong / Shenzhen/ Dong Guan, which performs quality audits at suppliers, and ensures delivery times and prices.



APC China:

Production engineer, Jacky Shi  
Shenzhen / Dongguan  
Responsible for audits and delivery



Herry Wang  
Shanghai

Bodil Sylvest

Shanghai

# Company background: From 1984 to 1998 Electronic Manufacturing Services

## From 1998 - Outsourcing - EMS, Plast & Metal production in China

### 10 YEARS OF EXCELLENCE



I dag APC

Former Factory in Denmark from 1984 to 1998

Today APC Asia Production & Components ApS  
In China since 1998

**Entrepreneur Of The Year® (EOY)** award to the most successful and innovative entrepreneurial business leaders around the globe in more than 125 cities in 40 countries worldwide. All winners become lifetime members of *The Entrepreneur Of The Year Hall of Fame*, which is part of the Entrepreneur Of The Year Academy. Each year the national country winners from around the world are invited to the World Entrepreneur Of The Year awards



J. Sylvest Jensen  
Entrepreneur Of The Year 1997



# Business Concept:



All commercial contact only through APC

APC Denmark

APC Shanghai

APC Shenzhen

Follow-up:  
- Quality  
- Deliveries

After APC Accept:  
Directly contact concerning technical issues with cc to APC

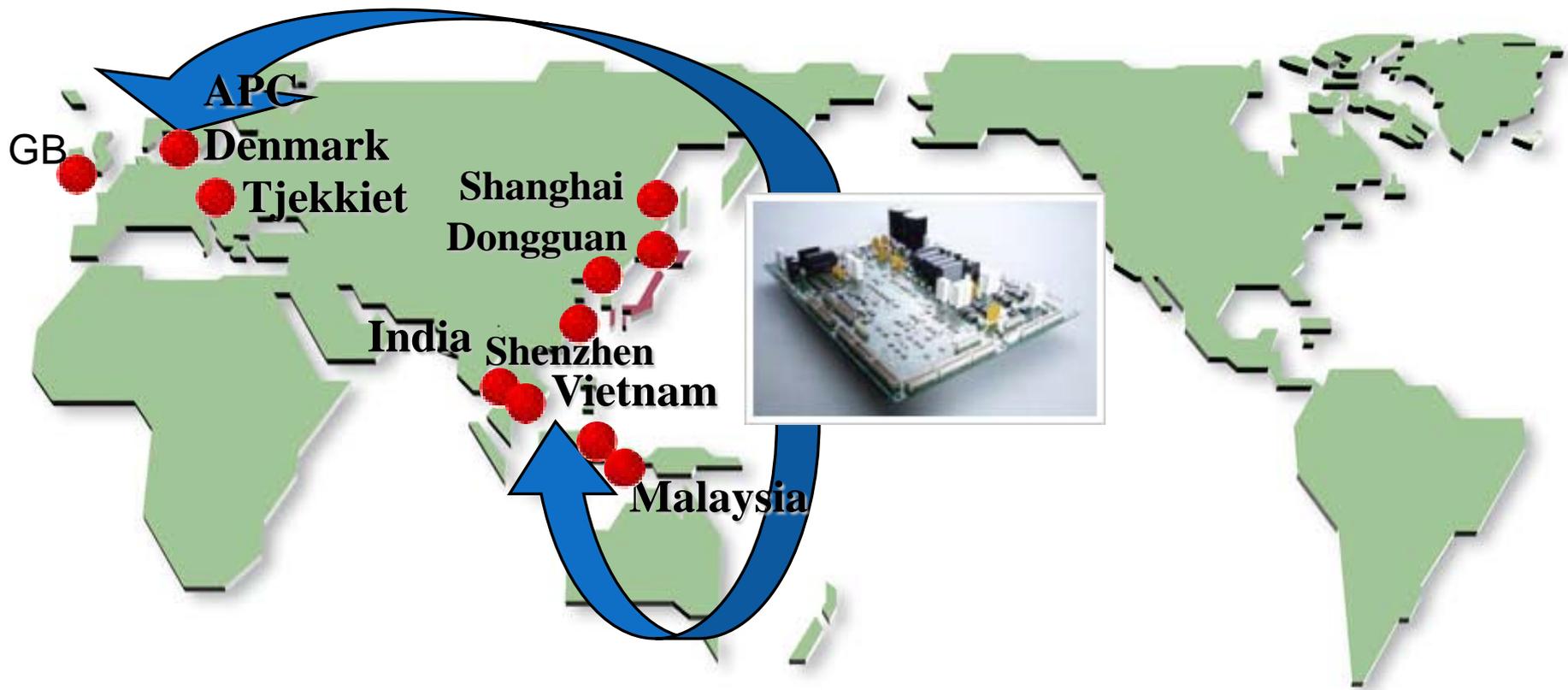


Electronics Manufacturing Services (EMS)



# APC's Partners in Asia

China, Thailand, Malaysia, India, Czech Republic



# APC Asian Production & Components ApS

## Electronics product development

- HW Design 25\$ / hour
- SW Design 35\$ / hour
- Embedded SW
- FPGA and ASIC implementation
- Print CAD Layout 35\$ / hour
- Print Prototyping
- EMC, EMI and EMS test approximately from 2000\$



# APC Asian Production & Components ApS

## Mechanical design, development and construction

- 2 & 3 D Mechanical Drawing 25\$ / hour
- Tool Drawings
- Mechanical Design 35\$ / hour
- Prototype Manufacturing





# APC Asian Production & Components ApS

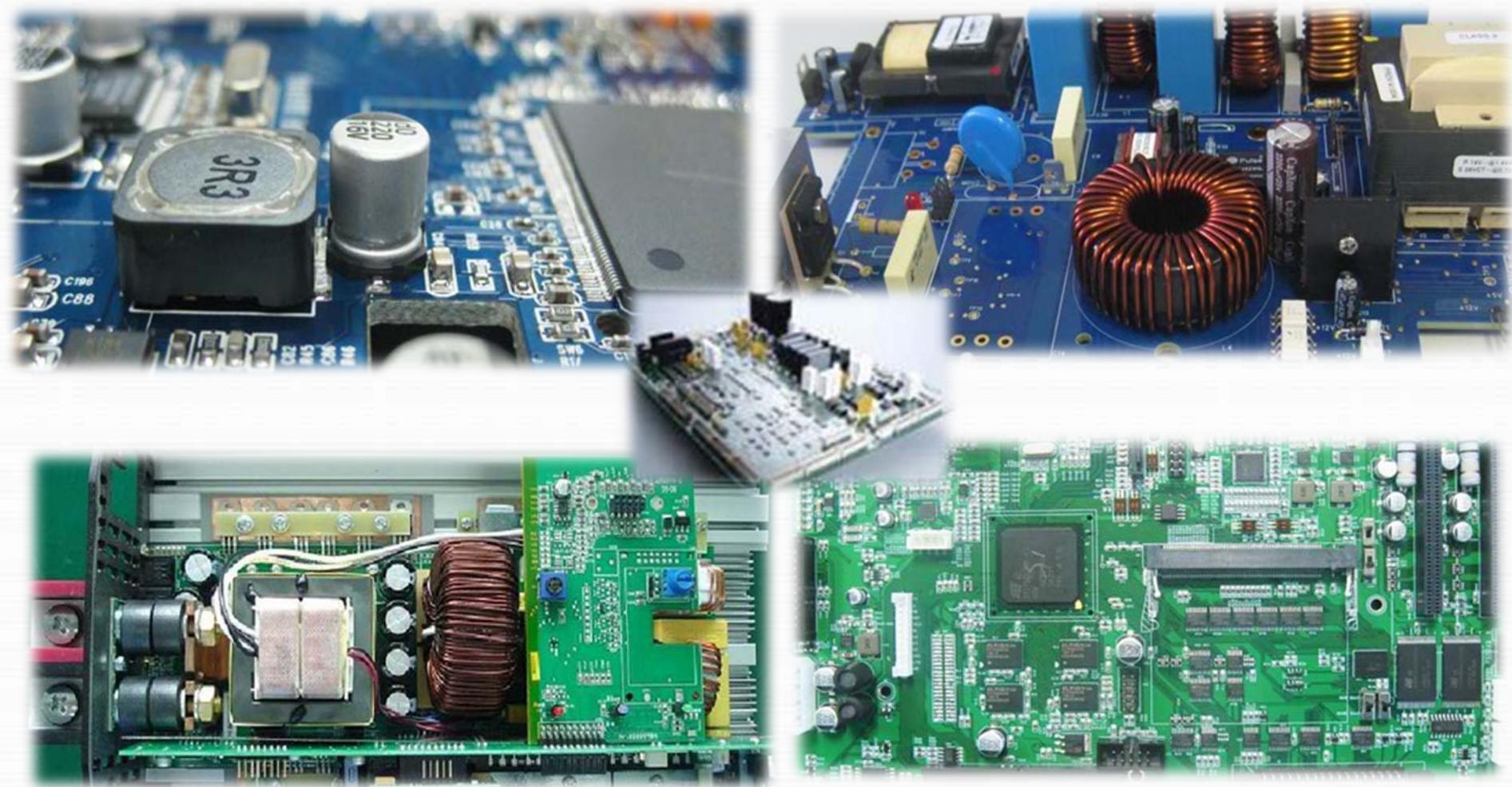
## Electronic Manufacturing Services (EMS)

- ELECTRONIC ASSEMBLY PCBA (SMT & HMT). Processor according to RoHS.
- Assembly of QFP- and BGA, uBGA / CSP, 01005 components and wire bonding.
- Complete product manufacturing and assembly (Box Build)
- Material Procurement, Strategic Procurement. Production, Logistics online (ERP).
- Prototyping (NPI New Product Induction).
- QC: In-Circuit (ICT), Visual inspection (AOI) and function test (FT).
- X-ray control, Burn-in (BI) and EMC Test. Input Control (QI).
- ESD protected, temperature-controlled, Class 10K clean room.
- Quality: ISO 13485 (Medical), ISO 9001:2008, ISO 14001, TS16949, CE, ROHS cert.
- Quality Standard acc: Workman-ship/IPC-A-610 standard Class 2 and 3.
- Small series of 50 pcs (High Mix), 100 pcs (Low Mix) and upwards, without quantitative restriction on customized production lines.
- HW, SW, PCB Print Layout & Mechanical Design and Development.
- Guaranteed prices among lowest in world market prices. Typically, prices below 30% of European prices, in addition to clean factory price China

Approximately 30-40% of Danish manufacturing cost. Low volume from 100 pcs

# Examples of customer-specific products

## Electronic Manufacturing Services (EMS)



# Examples of customer-specific products



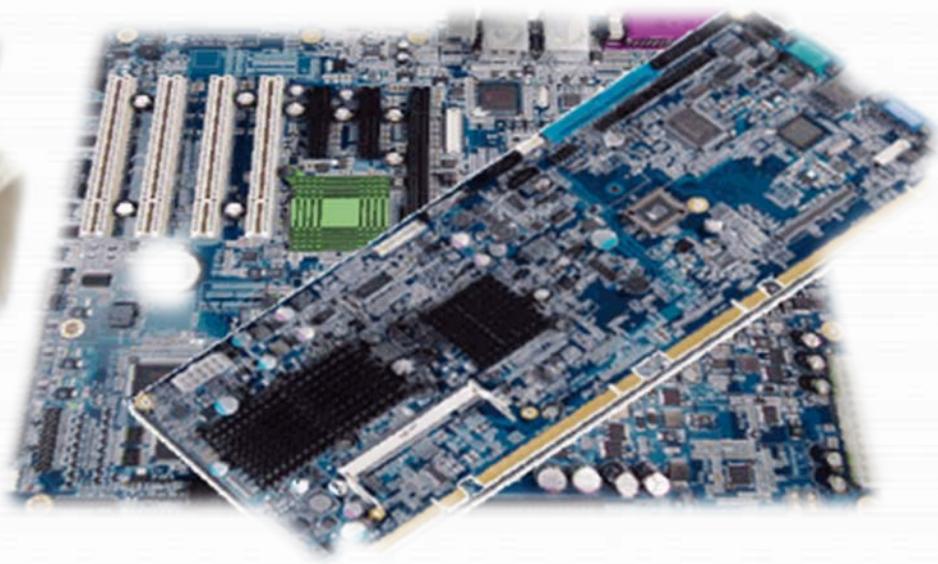
## Box Build

Typically, total delivery time 6-8 weeks for first delivery



# Examples of customer-specific products

## Contract Manufacturing Services



# APC's EMS partners:

Electronic assembly SMD, HMT, COB, Box Build (Mechatronic)



SMD Linie



SMD Pick and place machines



85 SMD Lines



Box Build assembly lines

# Custom-designed components:



**Printed Circuit Board (PCB):**  
Single-double-sided ,Multilayer  
Flexible PCB (FCB)



**Cable & Wireharness:**  
Cable Bundles  
Flat Cables  
Spiral Cables  
Power cord  
Connectors



**Membrane Switch:**  
Silicone Keypad  
Rubber Keypad  
Touch Panel



**Plastic and Aluminium injection molding/Ext.:**  
35T to 3600T  
Up to 2500 mm  
Vacuum forming



**Optoelectronics:**  
LCD LCM Modul  
TFT LED LD



**Metal Machining CNC & Casting:**  
Laser Cutting, Press,  
Bending, Punching.....  
Turning, Milling, Grinding

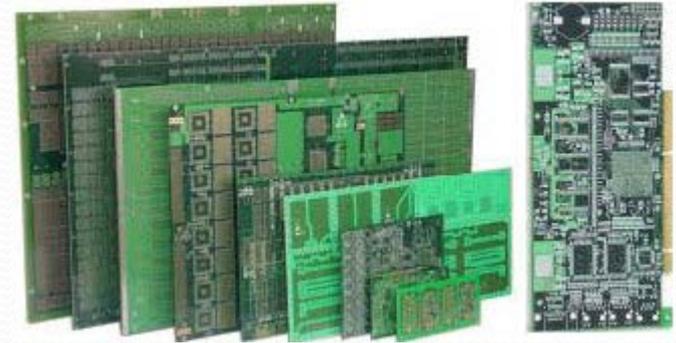


**Transformers:**  
transformers  
Toroidal  
Coils  
Power Supply



**Aluminum Processing:**  
Sheet metal boxes  
Cabinets and front  
panel  
Extrusion - Profiles

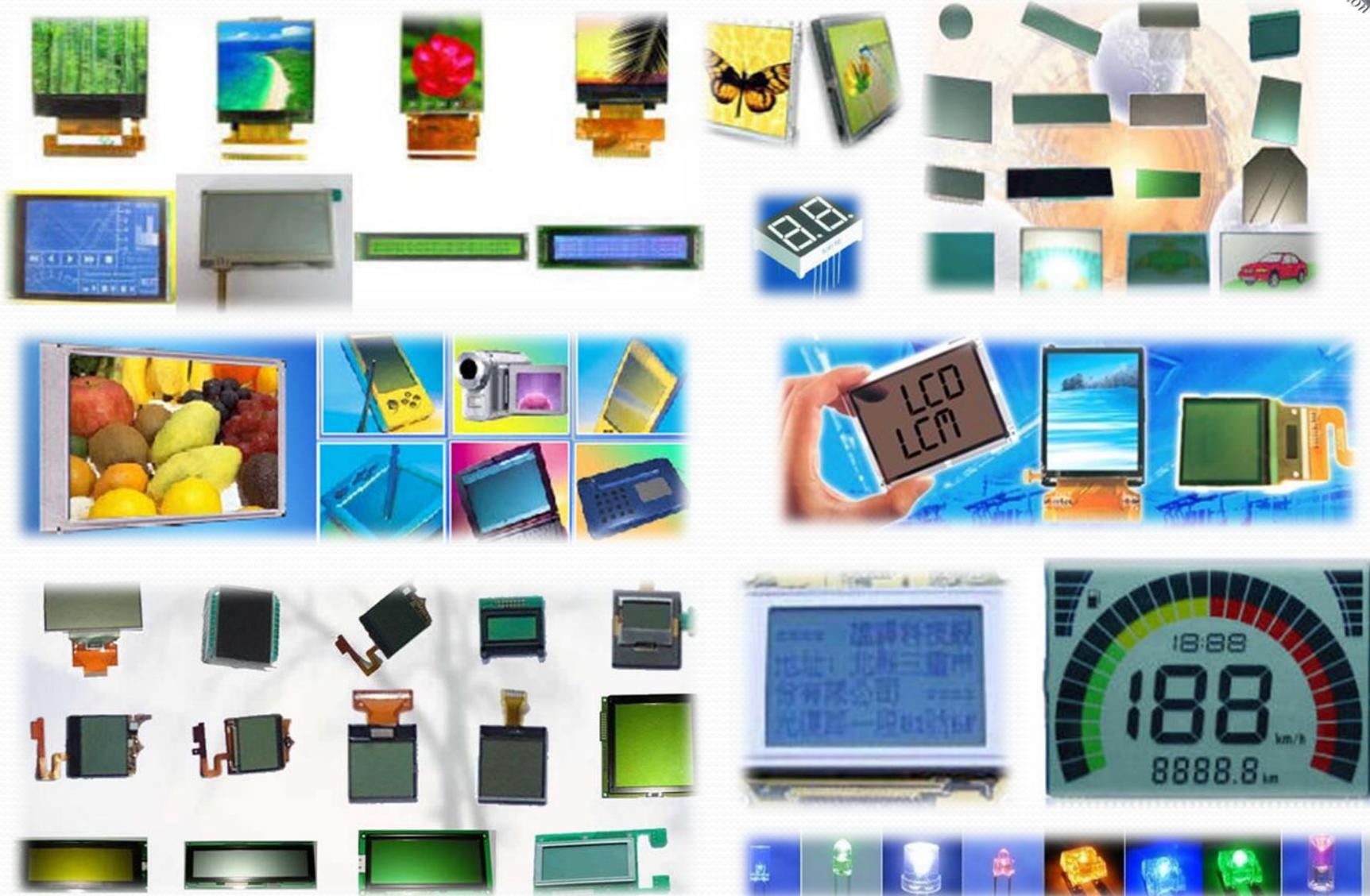
# Examples of Printed Circuit Board (PCB)



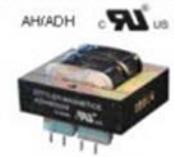
# Examples of Membrane Switch



# Examples of Optoelectronics LCD(M), TFT, Touch



# Examples of Transformers, Power Supply



# Examples of Wireharness



# APC Asian Production & Components ApS

## Standard Components

Is not directly included in the APC's product program,  
but can be supplied by order > 1-2000 USD

Direct from the factory via our Hong Kong / Shenzhen branch

- Connectors
- Relays
- Mounting Boxes
- Switches / Switches
- Motors
- Semiconductors
- Power (Contactors, PLC)
- Panel PC



HMI



Integrated  
PLC+HMI



Inverter



**APC Asian Production & Components ApS**

## Plastic and Aluminium Injection / Extrusion & Tooling

- Tooling cost
  - Small Item 2500-4000\$
  - Big Item 4000-6500\$
- Delivery time ca. 5 weeks
- Item delivery time Plastic and Alu. ca. 1-2 weeks
- Extrusion
- SLA models
- If you dont have 3D Mechanical drawing, we can do a 3D drawing after your model.  
Normaly 1 day of 25\$ / hour



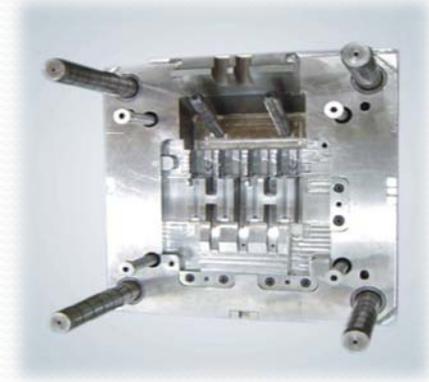
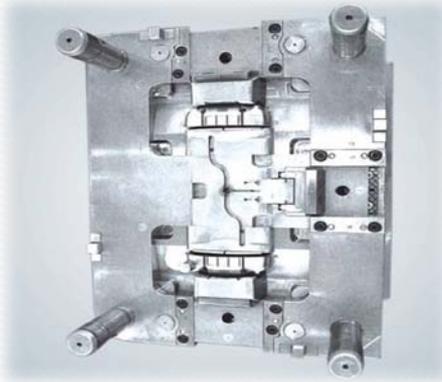
# Examples of customer-specific plastic products



# Examples of customer-specific plastic products



# APC's Plastic and Aluminium partners:





# Tooling for Plastic and Aluminium injection:



# APC Asian Production & Components ApS

## Metal Machining

### Non-cutting machining

- CNC Laser Cutting
- Press
- Bending
- Pulling
- Punching

### Machining

- CNC Turning
- CNC Milling
- Grinding

### Castings

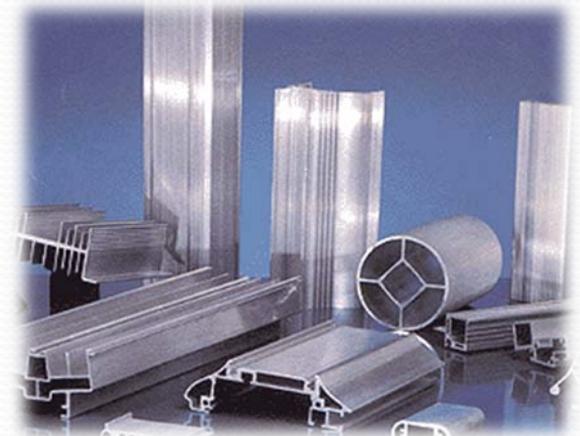
- Sand Castings
- Wax/Investmen Casting
- Steel/Aluminum Casting

### Rubber

Enclosures, Chassies, Rack, Front plates

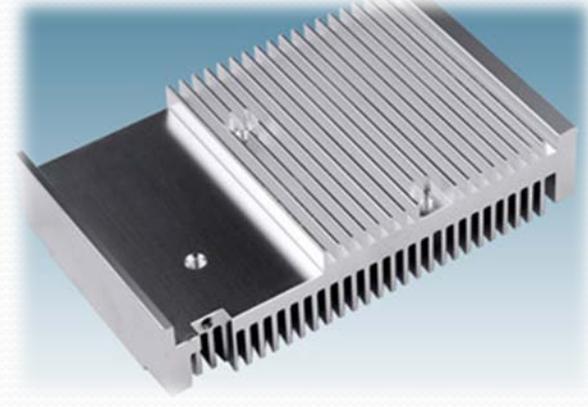
# Examples of customer-specific metal products

## Machining - Casting



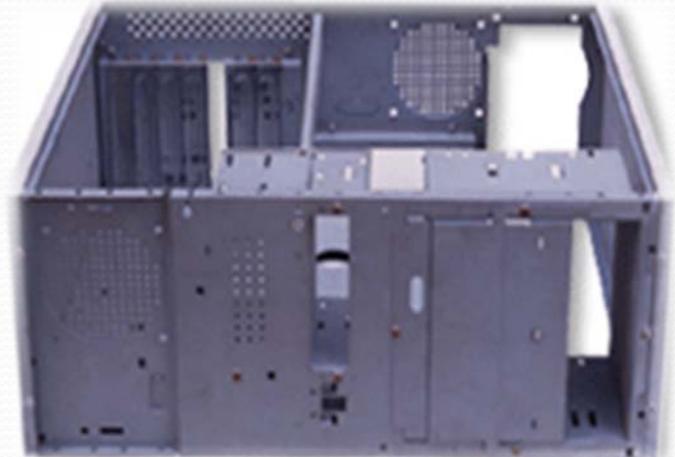
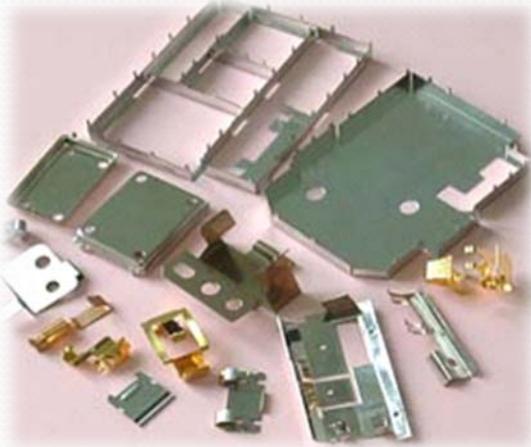
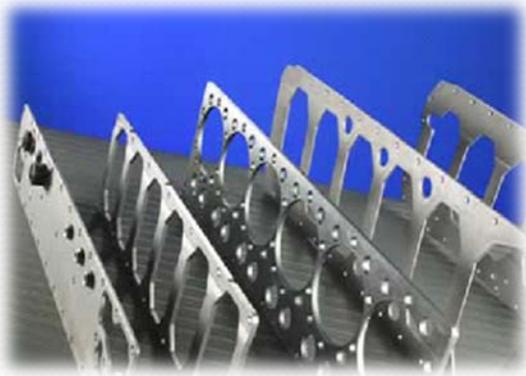
# Examples of customer-specific metal products

## Machining - Casting



# Examples of customer-specific sheet metal working

## Sheet metal working



# Examples of customer-specific Aluminium Injection

## Aluminium Pressure Injection

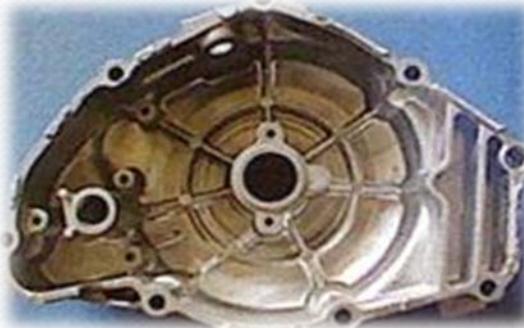
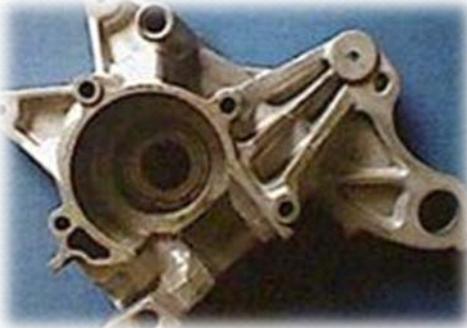


# Examples of customer-specific Steel Casting

## Investment Casting



## Die Casting



## Sand Casting



# Examples of customer-specific Sand Casting



## Sand Casting



# APC's Machining partners:



201

2007 11 01



# Quality Certification and Standards - Electronics:

## Electronic Manufacturing Services (EMS):

- Quality security. **ISO 13485 (Medical)**, ISO 9001: 2008, ISO 14001 (Environmental), QS 9000, TS 16949 (Automobile), IPC-A-610 kl.3 (Highest requirements) CE og ROHS certified..
- Quality Standard acc: IPC-A-610 Standard Class 1, 2 and 3 (Highest requirement)
- ESD protected, temperature regulated, Class 10K clean room.
- QC: In-circuit (ICT), Visual inspection (AOI) and function test (FT).

## Printed Circuit Board (PCB):

- Quality Standard acc: PERFAG DIN/IEC326
- IPC-A-600 (Acceptance of Printed Boards)
- IPC-6012 (Qualification and Performance Specification for PCB)
- RoHS Directive

# Quality Certification and Standards – Plastic & Metal:

## Quality Standard Plastic & Metal production:

- Kvalitets sikring. ISO 9001: 2008, ISO 14001 (Miljø), QS 9000, TS 16949 (Automobil), ROHS certificeret.

## Quality Standard & Norm for Plastic Injection:

- DIN 16901 Plastic Moulding
- ISO 1302 surface condition

## Quality Standard & Norm for Metal work :

- ISO 2768-1

# APC's Audit skema iht ISO 9001:2008:



## Audit Spørsmål:

Supplier: xxxxxxxx xxxxxxxx	
Audit performed by: xxxxxxxx, APC, Shenzhen	
Date: 08-04-2010	
4.1.2 Organization	
Does supplier have a Quality Manager?	Name:
Is the Quality Manager independent of the production?	
4.2 Quality Management System	
Does supplier have a quality policy?	
Does supplier have a manual for quality?	
Is the manual available for the staff?	
Which quality approvals has the supplier	last approval:
Which norm approval has supplier	last: approval:
Which environment approval	last: approval:

# Organization:



**Jørgen Sylvest Jensen COE**



**Bodil Sylvest Jensen Director**



**Jacky Shi Project Engineer, APC Shenzhen**

Project Engineer, QA Engineer





**Thanks for your attention**

**APC Danmark, APC Hong Kong / Shenzhen, APC Shanghai**

**APC Asian production & Components ApS Sundkrogen 35 6400 Sønderborg**

**Tlf: + 45 74 48 50 05 Fax: + 45 74 48 50 45 E-Mail: [apc@apc.as](mailto:apc@apc.as) WEB: [www.apc.as](http://www.apc.as)**