

# PRESENTATION OF TOPSIL

Copenhagen Winter Seminar  
3rd December 2014

## AGENDA

- **Topsil in brief**
  - **Our business**
- Strategy "Executing on Opportunities"
- Questions

# DEDICATED TO HIGH QUALITY SILICON MANUFACTURE SINCE 1959

- Highly specialised manufacturer of silicon wafers for advanced electrical components on power market.
- Amongst only a handful of companies worldwide capable of manufacturing ultrapure silicon (float zone).
- Customers: Relatively few large multinational companies in the semiconductor industry & for a minor part, research institutions/universities.
- Substantial investment programme of DKK 300m 2010-2012 in facilities, technology and equipment to strengthen overall position in market.
- New plant in Copenhagen Cleantech Park (Fr.sund), production initiated, transfer from old plant in same area ongoing.
- Subsidiaries in Warsaw, Poland, and Kyoto, Japan.
- Listed on NASDAQ OMX Nordic stock exchange since 1986.
- Staff of 350 people, revenue of DKK 312m (2013).



# ULTRAPURE SILICON ENABLING THE WORLD OF TOMORROW

## ELECTRIC AND HYBRID CARS

Energy efficient  
supply of  
electricity,  
regulation of  
supply.



## WIND TURBINES

Control of  
turbine,  
distribution  
of electricity  
to grid.



## THE GRID

Conversion of  
current, grid  
connection,  
Smart Grids.

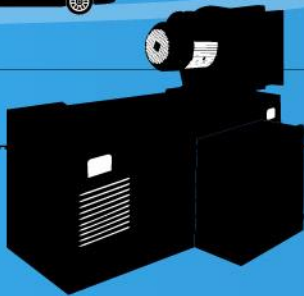
## ELECTRIC TRAINS

Energy  
efficient supply  
of electricity,  
regulation of  
speed.



## PRODUCTION MACHINERY

Control and  
energy efficient  
adjustment of  
speed.



# MACRO ECONOMIC DRIVERS ON POWER MARKET

- Growing middle class worldwide, urbanisation. This calls for modern conveniences such as access to stable supply of electricity, well-functioning public transport, cars, white goods, etc.
- Development of green technologies driven by concern of increased levels of pollution, focus on CO2 emissions, price on fossil fuels.
- Political action: Grid improvements and planning of public transport are in essence driven by governments, including size of investments and pace of implementation.



Courtesy of Toyota hybrid





# MARKET CHARACTERISTICS

- High entrance barriers to industry
  - Long production cycles,
  - Inter-dependency - long term relations in value chain
  - Long and costly qualification processes
- Topsil: Long term agreements with raw material suppliers and main customers
- Customer requirements: Uniform, high quality products, on time delivery and price
- Step-change in technology opening new opportunities
  - Towards larger size wafers (200mm).

**Polysilicon**



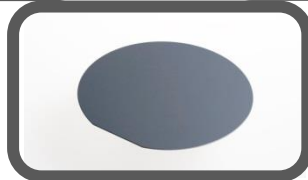
**Power component**



**Final application**



Courtesy of Toyota hybrid



**Finished wafers**



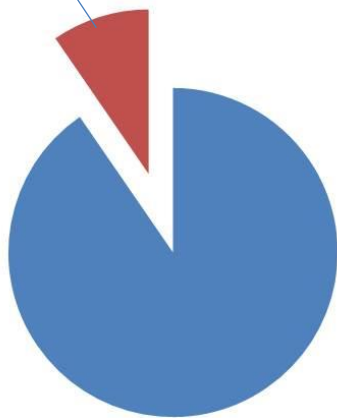
**Power module**

# MAIN MARKET: POWER MARKET, MARKET SIZE 2012 AND STRATEGY PERIOD 2013-2015

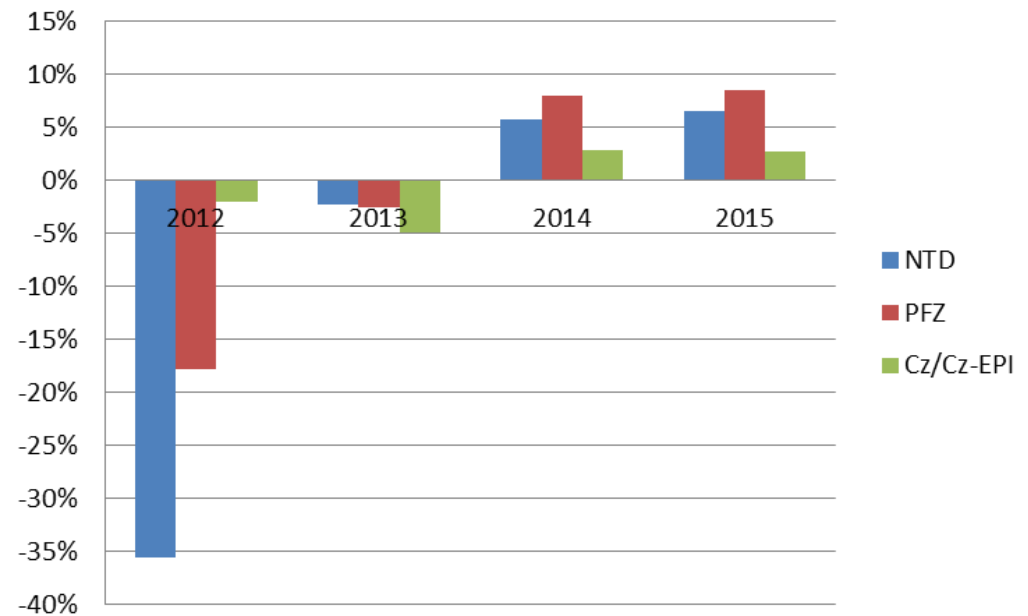
Aggregated silicon market worth around DKK 50 billion in 2013. The power market accounted for about 10% of this market.

Main types of silicon on power market are NTD for very high power, PFZ for high and medium power and CZ/CZ-EPI for medium and low power.

Sources: SEMI, Yole Developpement, Feb. 2014



Estimated market growth power market, YoY, 2012-2015



Source: Yole Developpement, February 2014

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# BACKGROUND, STRATEGY

## TOPSIL, BEGINNING OF 2012

- 2006-2010 strong growth and high profitability
- Focus on many small segments
- European focus
- Market downturn started early 2011, continued 2012
- New top management in 2012
- World class in-house power silicon and float zone competences
- Production yield and efficiency below market standard
- Lack of execution: Historically too many significant delays in key projects:
  - Development and market introduction of next generation silicon ✓
  - Construction of state-of-art float zone plant ✓
  - Integration between Topsil and Polish subsidiary, acquired 2008 ✓
  - Implementation of automotive level quality system ✓

# STRATEGY "EXECUTING ON OPPORTUNITIES "

**FOCUS ON LARGEST AND MOST PROFITABLE SEGMENT: POWER MARKET, UTILISING INVESTMENTS ALREADY MADE:**

- **Strengthen market position** in high and medium power (PFZ and 200 mm), believed to generate highest growth rates in coming years
- Expand position in **Japan and China**, Japan accounts for 1/3 of market for ultrapure silicon
- Increase **cash flow** from operations
- Increase capacity and enhance production **efficiency**



Courtesy of Toyota hybrid



# STRATEGY UPDATE, EXECUTING ON OPPORTUNITIES

## EXPAND POSITION JAPAN AND CHINA

Subsidiary established in Kyoto, Japan.

Agreement with local partner to grow Japanese market.

Framework agreements with two Chinese customers on supply of ultra-pure silicon for transport and energy infrastructure, 2014-2017.

## INCREASE FOCUS ON PFZ

Next generation silicon products (200mm) qualified by large, potential customer in the automotive industry (JP).

New version of 150mm products built on the 200mm platform released, supporting a more efficient production process. Deliveries started up to first customer.

## ENHANCE WAFER PRODUCTION EFFICIENCY

Comprehensive plan to enhance production efficiency in place. Activities progressing according to expectations.

Increased recycling of silicon waste.

Increased efficiency in supply chain.

Former production facility expected to be vacated by the end of year.

## SECURE AN IMPROVED CASH FLOW

Investment programme: New plant finalised on budget.

Adjustment of raw material agreements.

Tight control of working capital.

Reduction of cycle time in production.

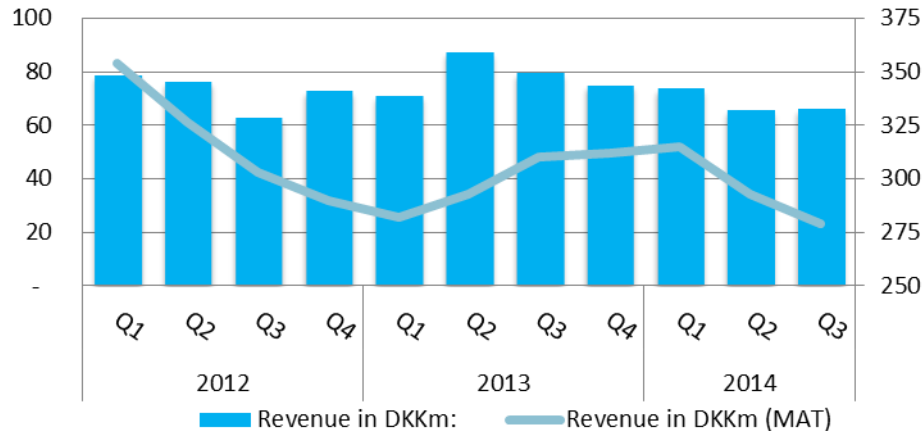
# CUSTOMER COMPLAINT ISSUE, Q1 – Q3 2014

**In Q1, Topsil received a complaint from a major customer regarding the quality of silicon wafers supplied. This led to temporary suspension of all deliveries to the customer – the deliveries were later resumed**

- The technical investigation of the customer complaint is in its final stage. Topsil believes the defect arose in connection with substantial, unapproved process changes by a third-party contractor.
- Topsil has received a provisional claim for compensation from the customer and has raised a claim against the third-party contractor.
- As a consequence of the complaint, Q3 results were adversely affected at the level of DKK 5 million, which is expected to be compensated for in the course of Q4, and which is consequently not expected to impact the full-year results.
- Defects have been identified in some of the replacement wafers delivered and, as a result, the deliveries have been suspended.
- Topsil has worked closely with both the customer and the third-party contractor in the process of identifying the root cause of this defect and believes to have identified the source at the third-party contractor.
- The customer's provisional claim for compensation does not include the defect in the replacement wafers delivered and the outlook for the full year does not include any costs in that respect.

# RECENT FINANCIALS, REVENUE AND EBITDA

## Revenue

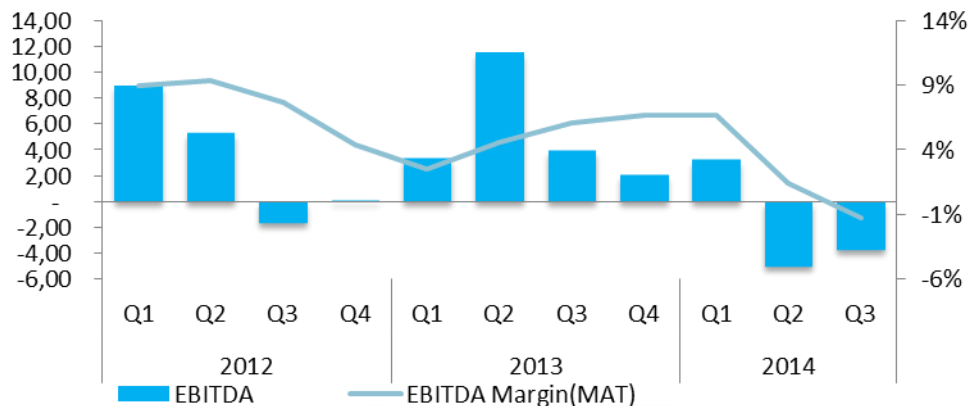


### Revenue development

- Q3 2014: DKK 65.8m (down by 17.2%).

### Revenue and EBITDA negatively impacted by customer complaint.

## EBITDA



### Consolidated Q3 EBITDA of DKK (3.8)m (Q3 2013 DKK 4.0m)

- EBITDA-margin of (5.7)% (Q3 2013: 5.0%)

### Contribution ratio 46.2%, year-on-year increase of 3.8 percentage points

# EXPECTATIONS FOR 2014

Guidance specified to lower end of previously forecast range of revenue in the range of DKK 270-290 million and EBITDA in the range of DKK 0-10 million.

The guidance includes temporary costs of operating at two locations in Denmark and one-off costs related to the planned move of all production to the new plant and closure of the old plant. These costs are estimated to be in the region of DKK 5 million.

Following the customer complaint issue, the updated revenue and EBITDA guidance for the full year is subject to significantly greater uncertainty than would normally be the case, just as the issue of compensation has not yet been clarified with the customer and the third-party contractor.

The guidance is based on exchange rates of DKK 575/USD 100 and DKK 180/PLN 100..

# OUR BUSINESS CASE IN SHORT

- Currently the power market is in a downturn
  - Over capacity
  - Price pressure
- Attractive market mid- to long term
  - Favourable mega trends
  - High entrance barriers to industry
- Improved business platform
  - State-of-art plant and equipment
  - Next generation products started in customer qualification
  - Quality level lifted to automotive industry level
- Focused strategy
  - Sales expansion possibilities
  - Efficiency gains





*DISCLAIMER: This presentation includes forward-looking statements reflecting management's current expectations for certain future events and financial performance. Forward-looking statements are inherently subject to uncertainties, and results may differ significant from expectations. Factors that may cause the actual results to differ from expectations includes, but are not limited to, developments in the economy and financial markets, changes in the silicon market, market acceptance of new products and the introduction of competing products. Topsil is only obliged to update and adjust the expectations if so required by Danish legislation and the Danish law on securities trading, etc.*

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