

SAVOSOLAR



Solar thermal technology taken to the next level

Varsinainen yhtiökokous

Savo-Solar Oyj

28.3.2017 Helsinki

Jari Varjotie, toimitusjohtaja

Tuloslaskelma

Tuhatta euroa	2016	2015
Liikevaihto	5 405	2 046
Materiaalit ja palvelut	-5 083	-2 272
Henkilöstökulut	-2 137	-1 601
Poistot ja arvonalentumiset	-617	-524
Liiketoiminnan muut kulut	-1 879	-1 342
Liikevoitto/-tappio	-4 311	-3 675
Rahoitustuotot ja -kulut	-1 165	-397
Satunnaiset erät	0	0
Tilikauden voitto/tappio	-5 475	-4 072

- Liikevaihto kasvoi noin 2,5 kertaiseksi lähinnä Tanskan toimitusten ansiosta.
- Materiaali- ja palvelukustannukset kasvoivat valmistusmäärien kasvun seurauksena, mutta marginaali parani selvästi edellisvuodesta.
- Henkilöstökulut nousivat maltillisesti ja tuotannon työtuntien määrä per keräin aleni. Markkinoinnin kulut kasvoivat Tanskan toimintojen lisääntyessä.
- Kannattavuuteen vaikuttivat edelleen ensimmäisiin toimituksiin liittyvät kertaluonteiset kulut sekä aggressiiviset myyntipanostukset.

Tase

Tuhatta euroa	2016	2015
PYSYVÄT VASTAAVAT		
Aineettomat hyödykkeet	1 989	2 127
Aineelliset hyödykkeet	1 349	682
Sijoitukset/Osuudet konsernin yrityksistä	134	132
PYSYVÄT VASTAAVAT YHTEENSÄ	3 472	2 941
VAIHTUVAT VASTAAVAT		
Vaihto-omaisuus	491	392
Pitkäaikaiset saamiset	141	2
Lyhytaikaiset saamiset	401	569
Rahat ja pankkisaamiset	2 440	3 108
VAIHTUVAT VASTAAVAT YHTEENSÄ	3 480	4 071
VASTAAVAA YHTEENSÄ	6 952	7 012

- Koneisiin ja laitteisiin investointiin 882 tuhatta euroa.

Tase

Tuhatta euroa	2016	2015
OMA PÄÄOMA		
Osakepääoma	470	470
Sijoitetun vapaan oman pääoman rahasto	19 149	12 714
Edellisten tilikausien tulos	-10 385	-6 313
Tilikauden voitto/tappio	-5 475	-4 072
OMA PÄÄOMA YHTEENSÄ	3 759	2 799
VIERAS PÄÄOMA		
Pitkäaikainen (pääomalainat, pankkilainat, muut velat)	1 831	2 109
Lyhytaikainen (pankkilainat, ennakot, ostovelat)	1 226	2 105
VIERAS PÄÄOMA YHTEENSÄ	3 057	4 213

- Oma pääoma kasvoi merkintäoikeusannin seurauksena.
- Omavaraisuusaste tilikauden päättyessä oli 54,1 % (39,9 %)
- Pääomalainoja oli 1 431 tuhatta euroa, pankkilainoja 462 tuhatta euroa (826) ja saneerausohjelman mukaisia velkoja 214 tuhatta euroa (361).



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Review by the CEO

Savo-Solar Plc.
Annual General Meeting
28 March 2017



SAVOSOLAR



Solar thermal technology taken to the next level

Mission

We fight climate change with leading solar thermal technology to provide competitive and stable energy costs

Vision

Be the global first-choice supplier to high performance solar installations by 2020

Major achievements in 2016

- Significant growth of 164 % in revenue and clear improvement of EBIT margin
- Delivery of large collector fields in Denmark – four satisfied customers creating excellent reference base and reputation
- Capacity increase & efficiency improvement investments
- Solar Keymark test results – high efficiency proven publicly
- Tekes subsidy for the new mass producible collector model
- Successful rights issue and directed share issue in September
- Almost 4 000 shareholders in March 2017



Financial forecast

- Turnover in 2017 will be higher than previous year
- The full-year operating result is estimated to be better than in 2016
- The operating result on monthly basis is estimated to be positive during the last year half of 2017, at the earliest
- Target is to reach EUR 20 million turnover, at the latest by 2019



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Heat pump

Wood pellet boiler

Exchange station

Energy storage

Savosolar solar fields 15 000 m²

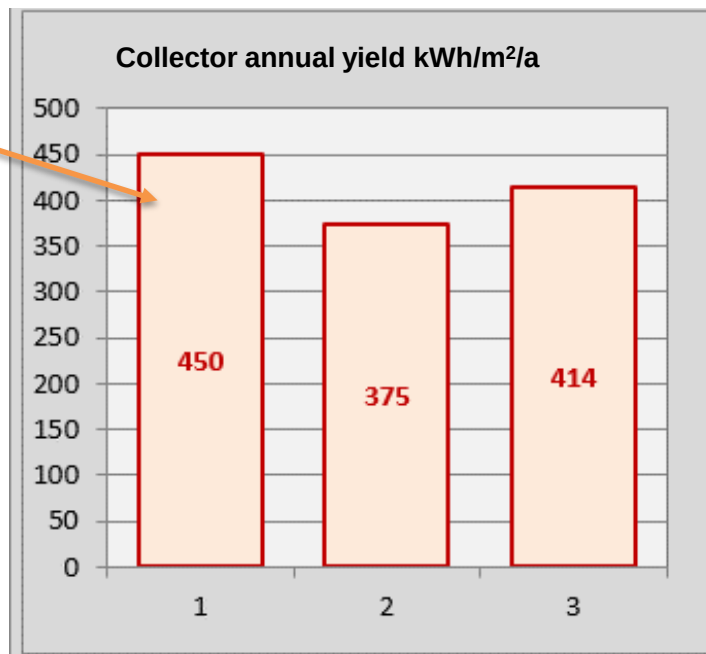
Future energy storage of 150 000 m³

Future solar field 35 000 m²

SAVOSOLAR - The Most Efficient Collector

- Savo-Solar single-glazed large collector was tested for Solar Keymark certificate → **efficiency proven again**
- When compared to other Solar Keymark test results →
Savo-Solar collector is the most efficient large collector in the market
- Against main competitor's single cover +20%, and double cover collector +9%

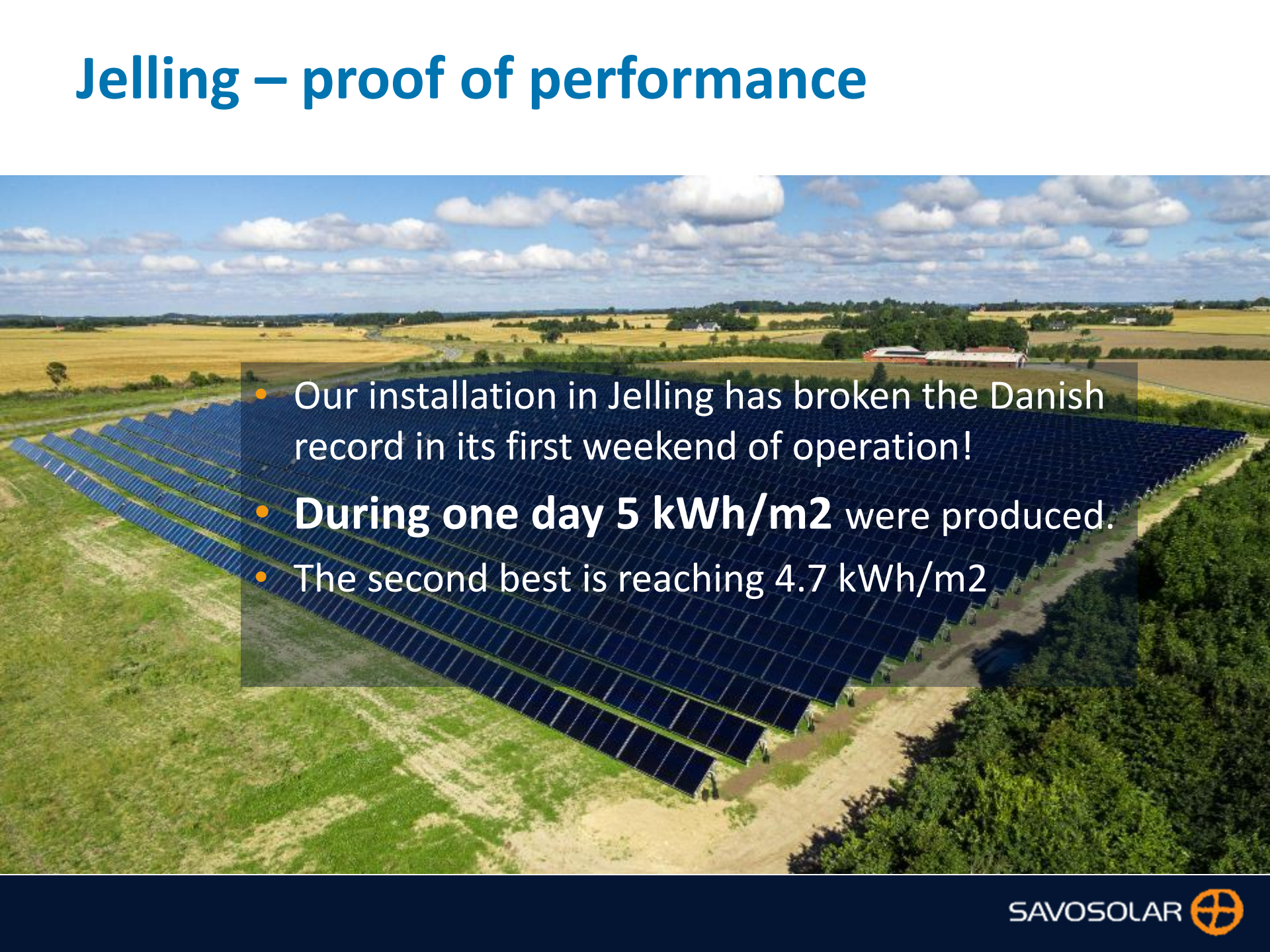
Savo-Solar large collector



Collectors in Swiss subsidy list



Jelling – proof of performance

- 
- An aerial photograph of a large-scale solar farm. Rows of dark blue photovoltaic panels are tilted towards the sun, installed on a grassy field. The background shows a typical Danish rural landscape with golden-brown agricultural fields, scattered trees, and a few farm buildings under a bright blue sky with fluffy white clouds. A semi-transparent grey box is overlaid on the middle of the solar panel array, containing three bullet points.
- Our installation in Jelling has broken the Danish record in its first weekend of operation!
 - **During one day 5 kWh/m²** were produced.
 - The second best is reaching 4.7 kWh/m²

Ukraine – solar thermal cooling



Söllested



Jyderup





The EU's Heating and Cooling Strategy



Heating and cooling will remain the biggest demand in 2050



Current reliance on 'obsolete fossil-fuel boilers' is unsustainable



A shift to reliance on RES and surplus heat is possible and necessary



District heating will have a vital role to play in supply green heat and enabling integration of energy system!

European energy markets are changing

- Renewable electricity from wind, biomass & PV heavily increased over last years
- As a result, electricity prices fall => CHP Power plants not economical any more
- For instance in Germany expected decommissioning of 9.478 GW CHP plants until end of 2019
- More heating plants using mainly bio fuels – not enough to cover all needs – and doubts whether burning something is the best way
- => Solar thermal included in all places where possible

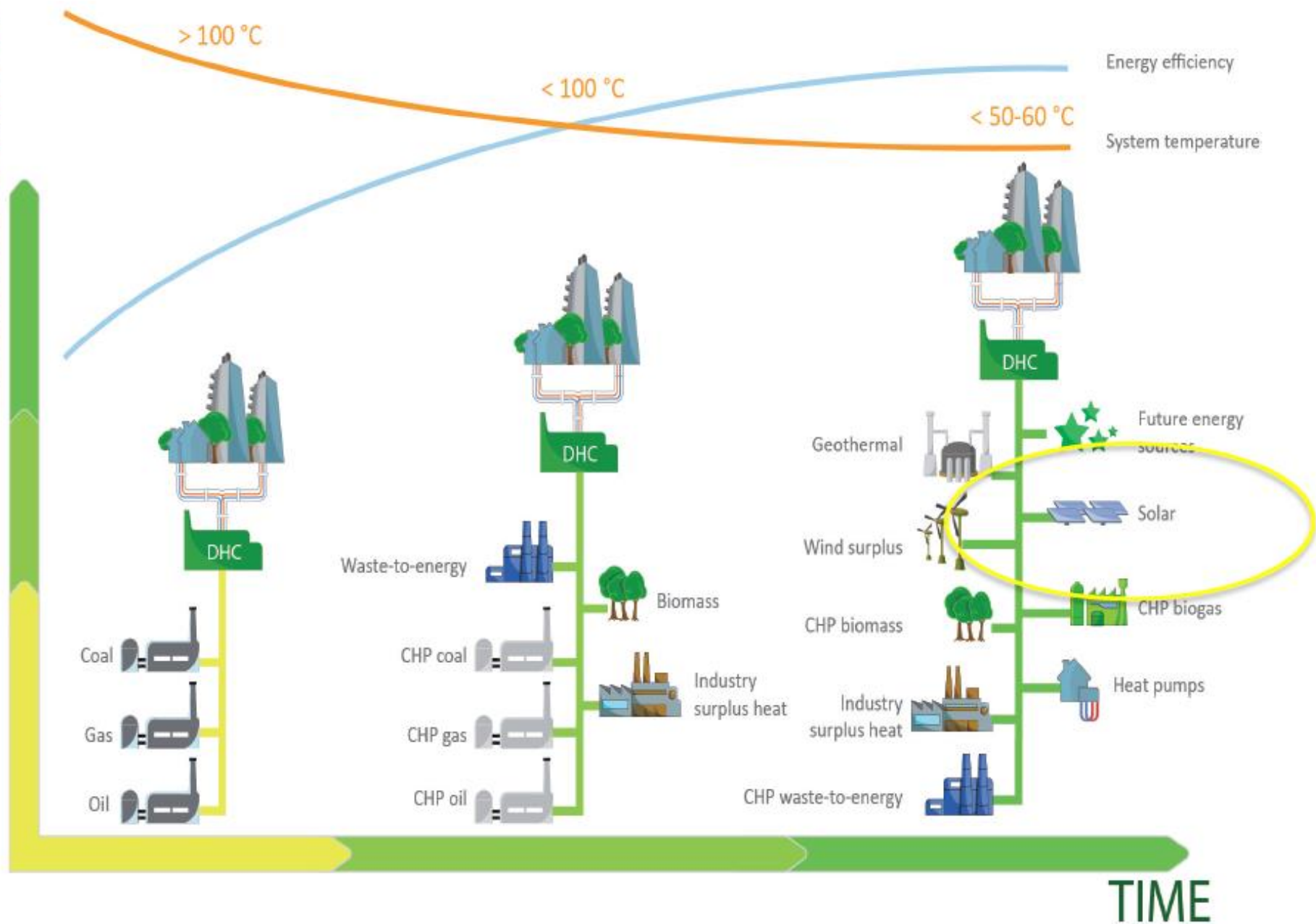


Köln-Niehl combined-cycle heat and power (CHP) plant in Cologne, Germany



Wedel CHP plant, Germany

DEVELOPMENT



TIME

District heating market potential

Denmark is the world leader in solar district heating

- Over 500,000m² installations in 2016
- Slow start in 2017 due to government long decision time for the emission reduction program
- High boom happening in 2018
- Market potential until 2030 EUR 1.3 billion

German speaking countries

- Copying Danish model
- A lot small fields in realization, some huge ones coming
- Market potential bigger than Denmark



Other countries activating

- France, Italy , Netherlands, UK
- Serbia, Croatia, Bulgaria, Romania, Latvia
- Chile, Mexico, Australia

World wide potential – 20% of DH

Location	Power/Load	Potential solar area	Investment
Austria	24,000 GWh	10,000,000 m ²	3,500 M€
Germany's 70 major Cities	89,000 GWh	40,000,000 m ²	14,000 M€
IFC Study – Croatia to China	1,000,000 MW	1,000,000,000 m ²	350,000 M€
Savosolar largest delivery Jelling		15,300 m²	ca. 2 M€

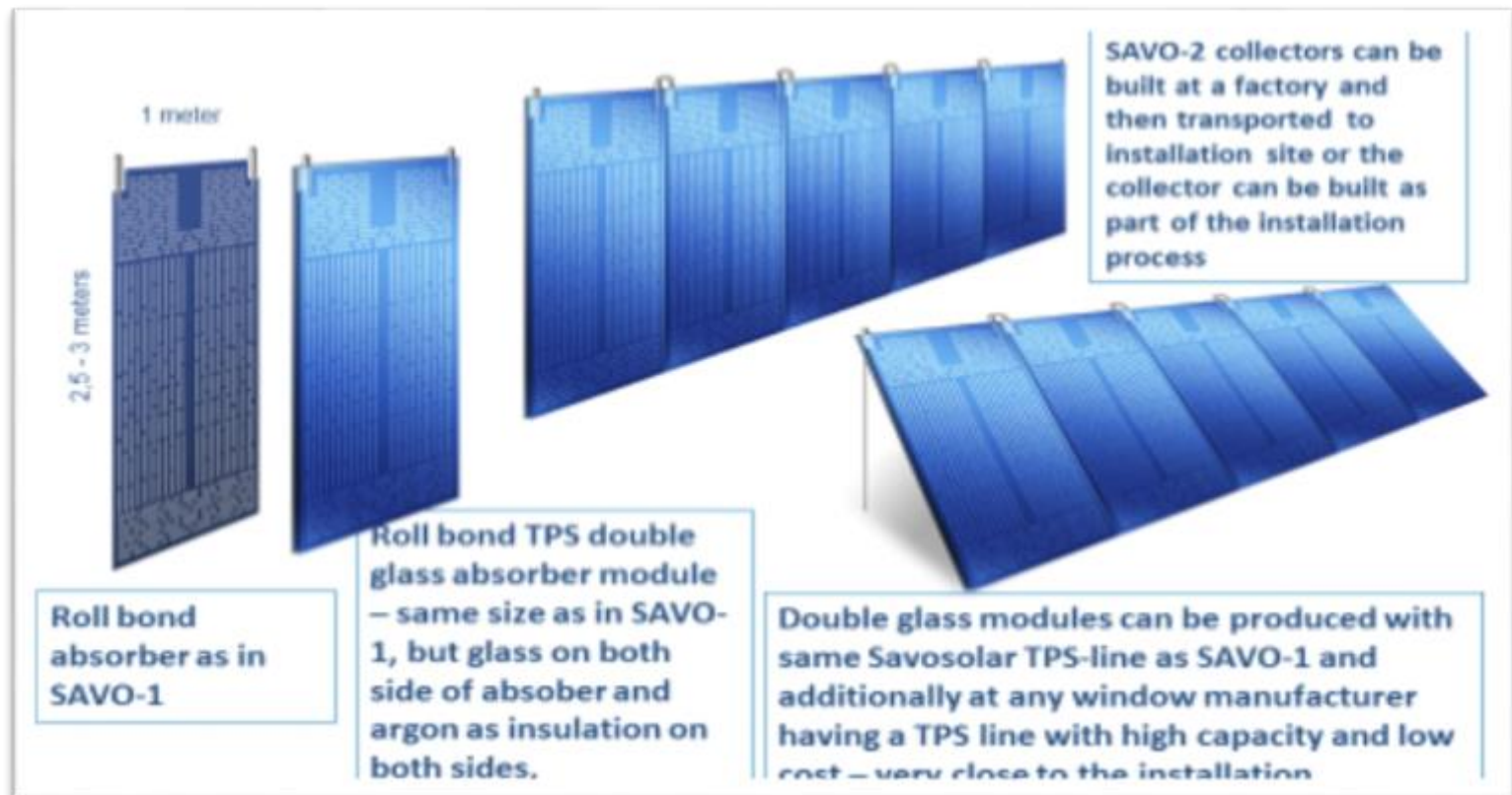
Source: S.O.I..I.D.

Savo-Solar recent activities

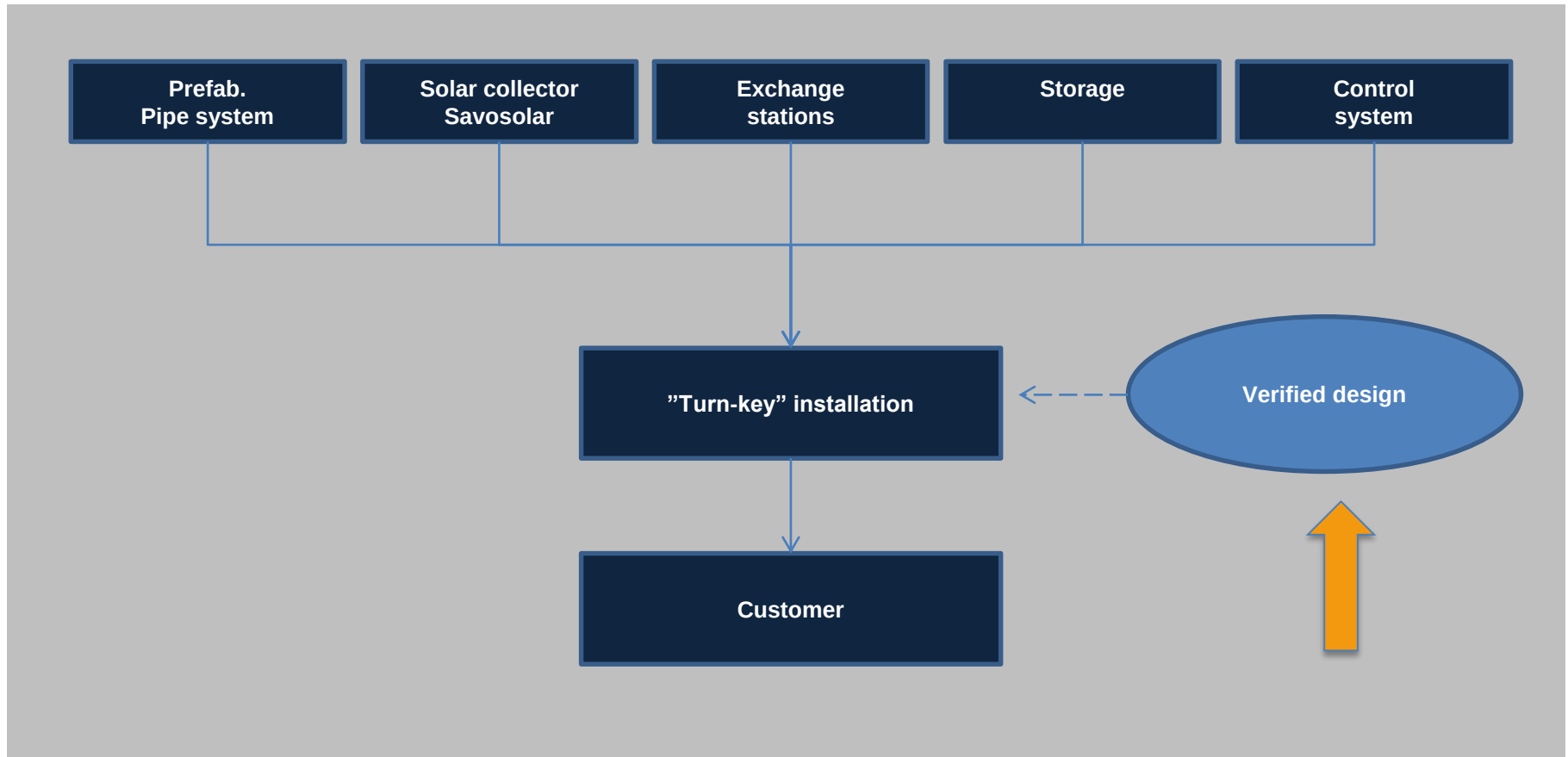
- Focus and investments in sales - very strong known potential project base over 90 MEUR
 - Strengthening the Danish organization
 - Establishment of German subsidiary and first sales resource
 - New system design department => emphasis in system sales know-how
 - Enhanced participation in events with potential customers
 - Social media activation and coming new web-site
 - Possibilities for ESCO-deliveries under clarification
 - Different level of quotations currently over 10 MEUR

Savo-Solar recent activities

- Streamlining the Finnish operations
- New product development subsidy granted by Tekes
 - Target to revolutionize the mega-sized fields market



Turn-key model - large scale projects



Savo-Solar recent activities

- Capacity investments successfully implemented with expected results
 - Coating speed / capacity doubled – line maintained in all aspects
 - New robot cell in bottom plate gluing halved the gluing time, no people needed



Development focus in 2017 - 2018

- Enhancing turn-key delivery capability
 - Increase turnover and profits with same capacity
- Cost reduction, especially in materials and services
 - Product modifications
 - Focus in sourcing with higher volumes
- Strengthening the system design competence



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- Next events
 - Stockholm 12.6.2017 / Småbolagsdagen
 - Stockholm 13.11. 2017 / Stora Aktiedagen
 - Göteborg 27.11. 2017 / Stora Aktiedagen

The sun rises in the North!

SAVOSOLAR - solar thermal technology taken to the next level

Thank you!

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