



# THE INVESTORS VIEW ON DESIGN TO OPERATE

Presentation of Obton

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# ABOUT OBTON

- Obton is an experienced contributor to development, construction, structuring, funding and management of solar PV systems.
- Our goal is a sustainable future through the means of solar PV.
- Obton targets land and rooftop owners, developers and financial institutions with the goal of building a broad and risk-diverse portfolio of assets in the field of solar energy.
- Our expertise includes development, funding and management of solar PV systems for stable markets in Europe, Australia and North America.



# OBTON'S MARKETS



**BELGIUM**  
20 MWp



**FRANCE**  
117 MWp



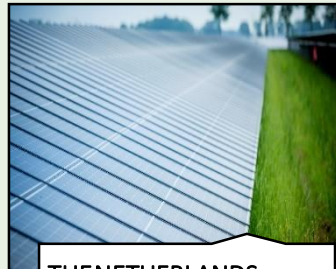
**GERMANY**  
301 MWp



**ITALY**  
220 MWp



**POLAND**  
96 MWp



**THE NETHERLANDS**  
199 MWp



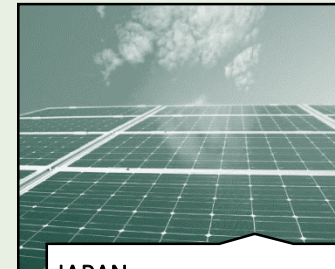
**UK**  
9 MWp



**HUNGARY**  
142 MWp



**CANADA**  
87 MWp



**JAPAN**  
56 MWp



**AUSTRALIA**  
Pipeline under development



**IRELAND**  
Pipeline under development



# RENEWABLE TRENDS OF OUR DECADE

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## 2021 Disasters

Flood in Germany, Wood fires accross Europe and North Amrica  
Necessity for a change in how humankind uses energy is getting more important  
„Fast solutions“ increasingly more important than „cheap solutions“

## CO2-Price

Increasing CO2 prices in national regulations (politicians have to react on climate change)  
Increasing price in the market (certificates)  
Financing entities increasingly looking at renewablesden Erneuerbaren zu!

## Biodiversity

Biodiversity / ESG is increasingly gaining political and social importance  
Renewable energy providers have to adopt the topic to “prove” their environmental combability  
Agri PV and Floating PV becomes more of a trend in the industry

## Hybrid

Hybrid is becoming more and more important. “One-dimensional” plants (aka “MWh-pumps”) are not requested any more- Renewables have to offer more than just “energy when the sun shines”  
Requirement for auxiliary grid services (reactive power, storage, ...

## Decomm- issioning

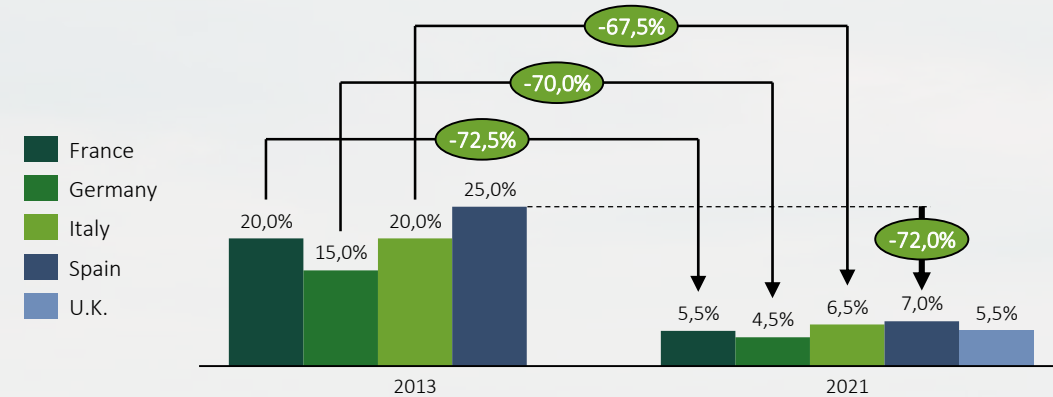
Nuclear and fossil plants are being decommissioned (reducing base load plants in the system)  
Increased need for frequency compensation and balancing power  
Short term compensation (Momentanreserve) needs to be compensated by new grid services  
Renewables can support, but require new regulations and business models



# PV TRENDS: RETURN COMPRESSION AND TRANSITION TO MERCHANT RISK

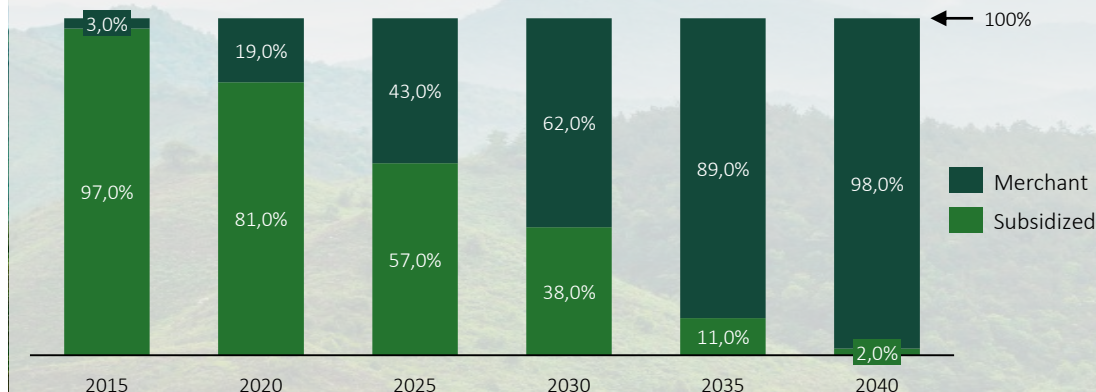
- +60 countries have adopted **market-based** mechanisms, many with **competitive auction** schemes.
- Solar **investment** returns in EU have **nosedived** due to the **increased competition**.
- **Merchant** solar projects **become the norm**.
- In the future, **competition** will further **intensify**, investment returns will be **volatile** and **risk profiles** change.

INTERNAL RATE OF RETURN, SOLAR PV EQUITY INVESTMENTS



SOURCE: NOMURA Analysis

OPERATIONAL MERCHANT AND SUBSIDIZED SOLAR PV AND WIND CAPACITY



SOURCE: BCG Analysis



# KEY PARAMETERS FOR AN INVESTOR'S BUSINESS CASE

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## ➤ Overall

- Debt capacity
- Sensitivity to changing input parameters

## ➤ Revenue

- Yield / Losses / Availability / Degradation
- Long term power price expectations
- Additional Streams (GO, CO2 certificates)

## ➤ Cost

- Technical and Commercial Operation
- MRA
- Long term land availability
- Dismantling





# WHAT AN INVESTOR LIKE OBTON IS LOOKING FOR

## The winning strategy

The four pillars	Multiple routes to market and higher end returns	<ul style="list-style-type: none"><li>✓ <b>prioritized growth markets</b> have <b>state auctioned PPAs</b> and <b>liquid forward markets</b> for power making 3-7 YR merchant PPAs at fair premiums achievable.</li><li>✓ Top markets <b>achieve highest state auctioned PPAs</b>. Enter in early market boom, and well posed for further growth.</li></ul>	Establish expert centers	<ul style="list-style-type: none"><li>✓ <b>Markets &amp; Energy Portfolio</b>: Build in house route-to-market and portfolio management function.</li><li>✓ <b>Technology &amp; Projects</b>: Strategy plan in development to ensure value added across entire maturity cycle.</li><li>✓ <b>Asset Management</b>: Tech support by Dev. works on mapping in house service requirements, IT infrastructure and team setup.</li><li>✓ <b>Project Development</b>: Ramp up greenfield development teams in relevant markets</li></ul>
	Capture value by moving down stream in maturity cycle	<ul style="list-style-type: none"><li>✓ COD on <b>first greenfield development projects</b> in at least <b>top prioritized growth markets</b> by 2023.</li><li>✓ <b>Mix of</b> itarget deliveries <b>from greenfield development</b> as well as <b>from ready-to-build</b>.</li><li>✓ Internal tech organization to work on <b>a final organization, budget and plan to deliver on targets</b> to be presented jointly with commercial development</li></ul>	Use merchant shift to capture new revenue streams	<ul style="list-style-type: none"><li>✓ Indicative commercial terms drafted with tier 1 energy trader on delivery of <b>energy portfolio management/hedging services</b> for solar pv projects with merchant exposures.</li><li>✓ <b>Service funds</b> with hedging and risk management services</li><li>✓ Investigate and integrate <b>new revenue streams</b></li></ul>

# WHAT AN INVESTOR CAN DO (1/2) DEVELOPMENT / CONSTRUCTION



## What we need

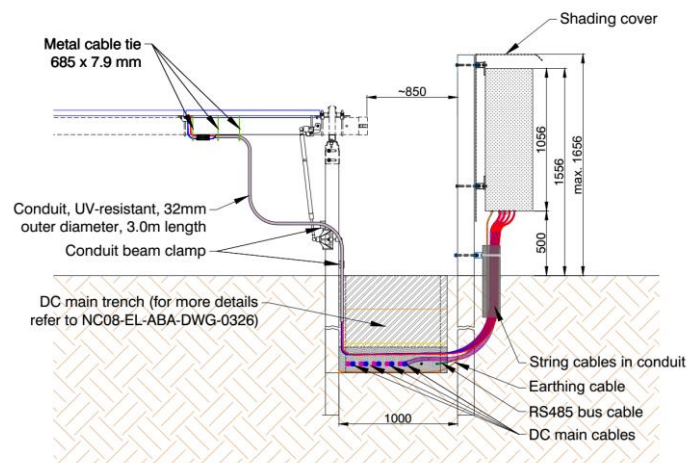
- Design that minimizes cost over entire lifetime
- Systems and components considering easy maintenance

## Way there

- Identify Teams knowledge and lessons learnt
- Best Practices Manual
- Introduce Best Practices as Annex for EPC contracts



Side view combiner box





# WHAT AN INVESTOR CAN DO (2/2)

## OPERATION & MAINTENANCE



### What we need

- O&M scope review
- De-Engineer to „value for money“-services only
- Life-cycle understanding of O&M cost



### Way there

- Create visibility of O&M contract terms
- Benchmark O&M services
- Understanding of Opex
- O&M scope: what is obsolete? What is missing?



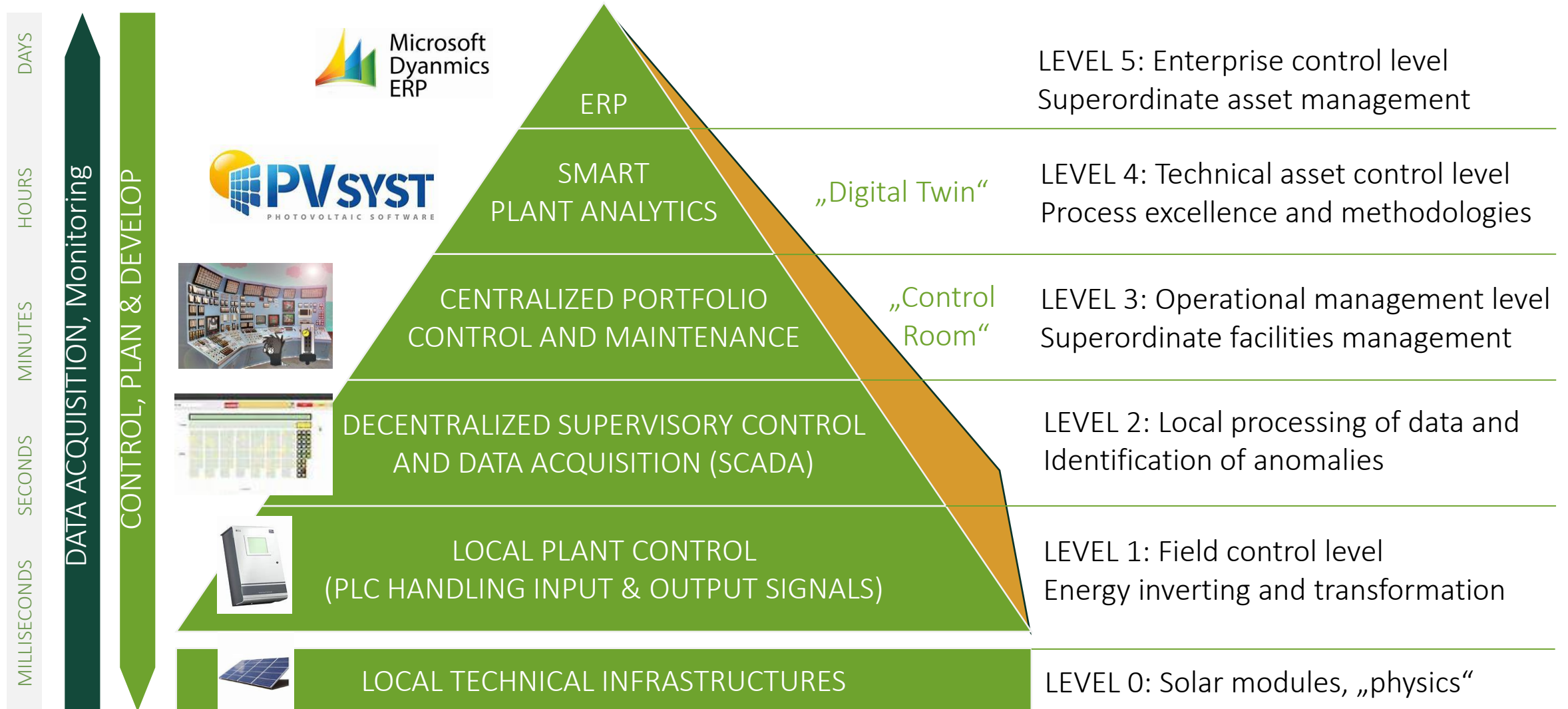
Work Order		Servicebericht			
W030204		Wartung (Niederspannung)			
11. Juli 2019					
D.2	Kabel und Leitungsanlage hält äußeren Bedingungen (Eisbildung, Wind, Temperatur, Einstrahlung) stand	X			
D.3	Kabel und Leitungen stichprobenartig auf unzulässig hohe Erwärmung kontrolliert	X			
D.4					
zusätzlich bei Prüfung nach VDE 0126-23 / DGUV Vorschrift 3					
D.5	Komponenten sind ausreichend bemessen (Dauerbetrieb) und entsprechen der Anlagen-Dokumentation (bspw. Kabelquerschnitte, DC-Sicherungen)	X			
D.6	Komponenten sind ausreichend bemessen (höchstmögliche Spannung und höchstmöglichen Fehlerstrom)	X			
D.7	R <sub>iso</sub> gemessen und dokumentiert	X			
D.8	U <sub>oc</sub> gemessen und dokumentiert	X			
D.9	I <sub>sc</sub> gemessen und dokumentiert	X			
D.10	Lasttrennschalter (Gleichstrom) verbaut	X			
D.11	Kennzeichnung/Warhinweis an GAK(s) vorhanden: „ACHTUNG! PV Generator führt auch im abgeschalteten Zustand Spannung“	X			
D.12	Beschriftungen der Leitungen / Betriebsmittel geprüft	X			
D.13					

E	WECHSELRICHTER	I.O.	nicht I.O.	nicht prüfbar	Hinweis
E.1	Standfestigkeit (feste Montage) kontrolliert	X			
E.2	auf äußerlich erkennbare (Feuchtigkeits-) Schäden wie Wassereintritt oder Kondensation kontrolliert (bei Zentral-WR inklusive Kabelkeller)	X			
E.3	Abschirmfunktion des Gehäuses gegenüber der Umwelt kontrolliert (bspw. Staub, Feuchtigkeit, Schmutz)	X			
E.4	Fehlerspeicher auslesen bzw. Fehlercode ablesen	X			
E.5	Ansaugfilter, Filtermatten und/oder Abluftventilatoren gereinigt/ausgetauscht	X			
E.6	Funktion von Ventilator-/Belüftungssystem geprüft	X			
E.7	allgemeine Sauberkeit kontrolliert und ggf. gereinigt	X			
E.8	Anschlüsse von Kabeln auf festen Sitz kontrolliert	X			
E.9	Funktionstest Not-Aus	X			
E.10	weitere Tätigkeiten gem. Wartungsanweisung des Herstellers durchgeführt	X			
zusätzlich bei Prüfung nach VDE 0126-23 / DGUV Vorschrift 3					
E.11	Drehmomente gem. Herstellervorgaben geprüft	X			
E.12	Beschriftungen der Leitungen / Betriebsmittel geprüft	X			
E.13	Hinweisschilder, Prüfzeichen vorhanden	X			
E.14	Z <sub>i</sub> gemessen und dokumentiert	X			
E.15	Z <sub>u</sub> gemessen und dokumentiert	X			

# A WELL DESIGNED DATA STRATEGY IS KEY FOR SUCCESS



Example lead concept for Intelligent Information Management within OBTON's enterprise organization





# QUESTIONS?



# THANK YOU

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