



Key

# Company identity card



Company name : AZTEQ

☐ Company address: Thor Park 8300, 3600 Genk

☐ Company website : <u>www.azteq.be</u>

☐ Creation date: 30 October 2017

☐ Legal structure: BV

■ Workforce: 3 FTE + 7 persons via service contracts

Share capital: 8 mio€

Company value proposition: We harvest the sun's energy to produce sustainable high quality heat for industrial processes and district heating.

figures: x 1000 €		2017 - 2018	2019	2020 H1	
	Turnover	0	0	180	
	Net profit	profit -303		-43	
	Equity	50	1034	1052	
	Fixed Assets	440	2885	3495	
	Workforce	2-3	5-7	7 - 10	

Market: Sustainable Heat (Carbon free Thermal Energy) for industrial processes and district heating in (Western) Europe.

Market Definition: Solar heated Water, Steam or Thermal oil up to 400°C, project capacity = 1 MWt - 20 MWt

Market Size: Total Addressable Market in Europe = Heating & Cooling (including District Heating & Industrial Process Heat)
Market in Europe = 546Mtoe per year (source EU commission
COM(2016) 51 final - 16.02.2016). This is 6350TWh per year (!).

Target market is Industrial Process heat up to 400°C (57% of total)

- → 10% conversion to solar requires 750 mio m² mirror aperture
- → this represents 225,000 mio€ investment value over 20 year
- → AZTEQ is early mover

Trend: strong expansion related to 2030 climate change targets

Pitch deck - start-up or scale-up name



# Management Team:



#### KOEN VERMOUT (1965) CEO

- Co-founder, shareholder
- Expertise in operational excellence
- Experience in establishing excelling operational teams in international environment
- Several Management functions at listed companies Alcatel and Nexans in Europe, Asia and Africa
- Electronics Engineer (Ir) Vrije Universiteit Brussel
- MBA Universiteit Limburg (Hasselt)



#### KARI VEN (1961) CTO

- Co-founder, shareholder
- Expertise in Commercial management
- Technical expert solar thermal systems
- Shareholder in HuiYin group
- Several Sales director functions, e.a. at HuiYin group
- Master Philosophy Universiteit van Antwerpen



#### PETER VANDEURZEN (1960) BUSINESS DEVELOPMENT

- Co-founder, shareholder
- Expertise in business strategy, sales & marketing
- Several functions as Business developer for international ICT companies
- Electronics Engineer -Universiteit KU Leuven



### BRENDON GRUNEWALD, FINANCE

- Shareholder
- Expertise in entrepreneurship, venture capital, business strategy en finance
- MD IceVista (business restructuring), MD Praefidi (advies& investeringen), CEO Moovly (cloud based tools for marketing & communications)
- Several management functions at international operating companies
- Private Equity & Venture Capital
   Harvard Business School
- MBA Open University Milton Keynes
- BSc Physics & Electronics -Rhodes University

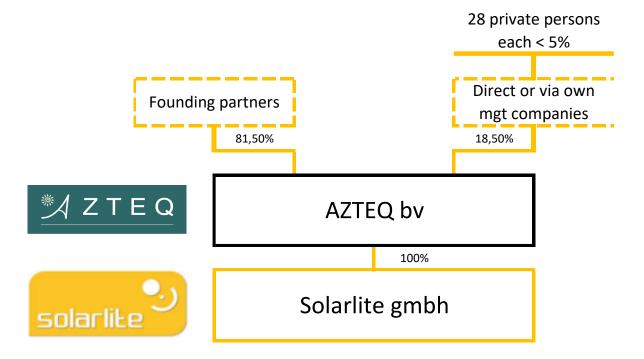


JAN BRAECKMANS (1989) LEGAL

- Shareholder
- Lawyer, curator and partner LVVadvocaten in Antwerp
- Several director functions in political, cultural and energy sector
- Since 2015 lawyer specialized in company and insolvency law
- Executive programme leadership and negotiation - Harvard Law School
- Master in Law (company law) Universiteit van Antwerpen



# Organization chart



### Solarlite acquisition: 15.07.2020

- Key benefits for AZTEQ :
  - Long term expertise and network
  - Reputation in Germany
  - Short term access to market with existing portfolio
  - Access to "Direct Steam Generation" IP
  - Footprint in Germany : a key market for energy transition in Europe



#### Joachim Krüger, CEO Solarlite

- Member management team Azteg
- Founder Solarlite Managing Dir. since 2005.
- Chairman of DCSP Deutsche CSP
- Large network within German political, scientific and industrial organisations
- Ph.D. in Renewable Energy SERT Thailand
- M.Sc. in Environmental Science Humboldt Univ. Berlin
- MBA, BoA, Hamburg

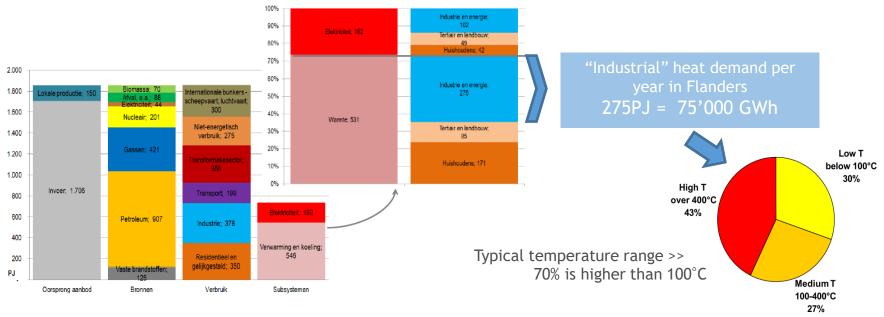
# Product / Company value proposition



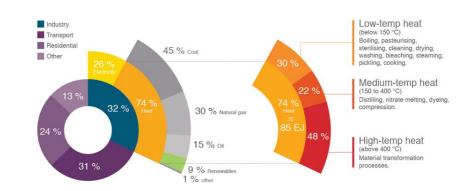


# IDENTIFIED PROBLEM

Bron: SERV (2014) op basis van Aernouts, Jespers, Wetzels (2015)



- □ Industrial energy mix : 26% is (electric) power, 74% is heat.
- ☐ Limited availability of sustainable energy sources for industrial high temperature heat above 100°C
  - ☐ In terms of energy transition: 25% of needs gets 90% of attention!
- $\square$  Increased pressure on the industry to reduce  $CO_2$  emissions
- $\square$  Unpredictable gas prices (while  $CO_2$  emission rights get more expensive)
- ☐ Hard to keep track of fast moving technological energy innovations.
- Power-to-heat is expensive.
- By expansion: same goes for residential energy mix, although with alternative heat sources at lower temperatures (geothermal, heat pump).

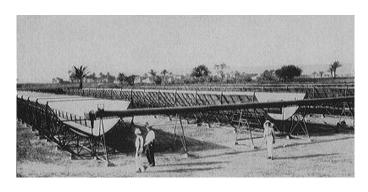


Total Final Energy Consumption 2014: 260 EJ; Source: IEA / IRENA



### **SOLUTION**

- □ Delivery of sustainable heat/steam on-site at competitive rates, by using concentrated solar thermal (CST) technology
- ☐ A zero-carbon solution with no supply chain that makes optimal use of space
- ☐ System is easily integrated into existing heat infrastructure
- Overall CO<sub>2</sub> emission reduction by combining sustainable intermittent heat from sunlight with existing heat sources
- □ No upfront investments required, only a fixed term purchase agreement for steam. Azteq will handle financing, project development and maintenance & operations of the CST installation.
- □ Reliable and constant performance guarenteed for >25 years with a fixed fee maintenance contract
- ☐ Flexible commercial options: Heat/Steam as a Service





### Why CST?

- Proven technology since 1907
- No longterm performance degradation
- □ Solar to heat efficiency of 68% at 340°C
  - ☐ 4x Higher efficiency per m² vs PV
- Competitive to other sustainable heat sources
- Access to subsidies
- Proof of Concept realized by Azteq in Belgium



## OFFER - WHAT IS CST?

- Parabolic mirrors rotate with the movement of the sun and concentrate sunlight onto a collector tube in the focal point
- Oil inside the collector tube is heated up to 400°C and is used as a high quality thermal energy source
- Heat exchanger is used to generate steam, which can be injected directly into existing steam networks. The cooled oil flows back to the collector tubes
- Heat maybe stored in modular thermal batteries that balance supply and demand during multiple days- and nights





#### SUSTAINABLE

Heat is produced directly from solar irradiation and it can be easily combined with other heat sources

#### LOW RISK

CSP technology is relatively simple with few moving parts, guaranteed yields and fixed heat costs over its lifespan

#### COMPETITIVE

CSP's LCOE is competitive to other sustainable heat sources. Subsidies make CST competitive to natural gas

#### PROVEN TECHNOLOGY

Used since the 1980's to generate electricity

#### **MODULAR STORAGE**

Heat energy can be stored by storing thermal oil in modular containers (up to 400°C)



# OFFER - INNOVATIVE PRODUCT (S) / SERVICE (S)

#### FULL OWNERSHIP

### FULL UNBURDENING

### **Turnkey Delivery**

#### **FULL OWNERSHIP**

- Client investment, ownership
- Maintenance in-house
- □ Project development & construction by 💆 Z T E Q
- System performance guarantee

### Build-operate-transfer

#### **HEAT & MAINTENANCE**

- Heat purchase agreement
- □ Project development, construction
   & operations by
   ✓ ZTEQ
- Transfer ownership of installation to client

### Heat Purchasing Agreement

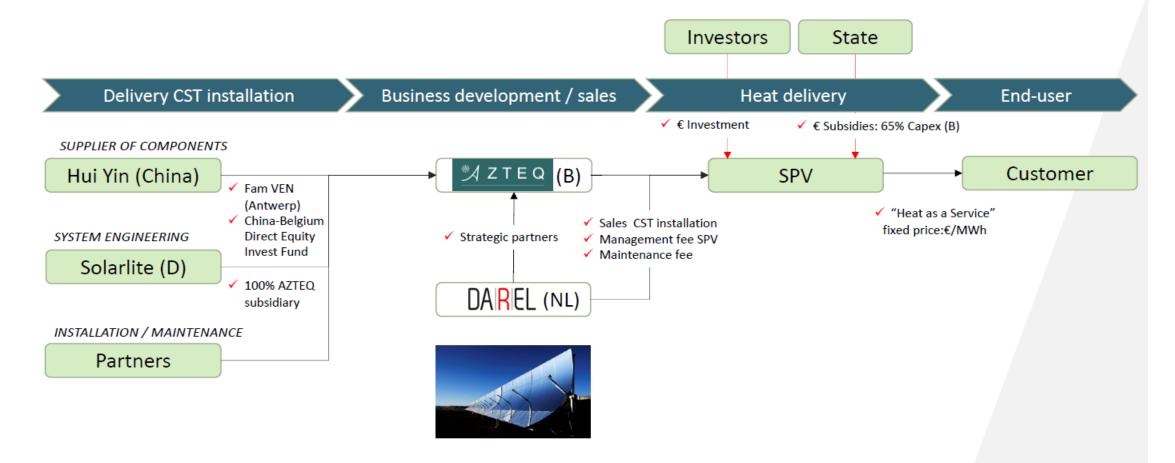
#### **HEAT AS A SERVICE**

- No investments, no ownership
- Heat purchase agreement (HPA)
- Access to utilities
- □ Financing, project development, construction, operations & maintenance by ZTEQ



### MARKET and VALUE CHAIN

- □ Total Addressable Market in Europe = Heating & Cooling (including District Heating & Industrial Process Heat) Market in Europe = 546Mtoe per year (source EU commission COM(2016) 51 final 16.02.2016). This is 6350TWh per year (!).
- ☐ Azteq focuses on applications up to 400 C which cover 57% of the total addressable markets





# SEGMENTATION - POSITIONING - COMPETITIVE ADVANTAGES

- Key environmental benefits:
  - Depending on the available direct DNI, the CST platforms reduce CO2 emission by more then 20%. When thermal energy storage is applied, this reduction doubles.
  - The CST platorms are extremely durable. Even the platform that have been build in the Nevada dessert still run after 40 years. All components can be recycled therefore in line with circular economy goals.
  - Zero emission impact on the environment during operation. No noise, no smell, no motion, no major disruption of the landscape. Compatible with local bio diversity.
- ► Key economic benefit:
  - AZTEQ delivers a heat-as-a-service solution. The customer has 0 Euro CAPEX.
  - ► Thanks to its high efficiency, CST platform deliver close to 4 times more energy per m² then PV
  - The payback time for a typical CST installation is around 8 to 10 years.
  - CST technology has very low maintenance cost (1% off APEX)
  - The customer has long term access to a stable energy price
  - ▶ The part of the industrial heat production generated from the sun is financially not impacted by raising CO2 taxes
  - Guaranteed access to affordable cost efficient component sourcing



### COMPETITION

- ► At lower temperature (<100 C):
  - Waste heat;
    - In most instances too low in temperature and not suitable for industrial processing
    - In most instanced a product itself from a source based on fossil fuel
    - Often used to convert heat into electricity via ORC technology
  - Geothermal:
    - Very expensive and risky investment
    - ► Temperatures not higher then around 120°C
    - Over time, the underlying infrastructure under ground cools out
  - Flat Plate:
    - ► Limited efficiency at higher temperatures. Also see DLS study at <a href="https://azteq.be/wp-content/uploads/2020/03/DLR-Parabolrinnenkollektoren-f%C3%BCr-die-solare-Prozessw%C3%A4rmebereitstellung-in-Deutschland-1.pdf">https://azteq.be/wp-content/uploads/2020/03/DLR-Parabolrinnenkollektoren-f%C3%BCr-die-solare-Prozessw%C3%A4rmebereitstellung-in-Deutschland-1.pdf</a>
- No real emission free competition between 100 C and 400 C



# ECONOMIC MODEL / INCOME MODEL

The financial model involves the use of AZTEO's own equity or partnership agreements in the first phase of the business model

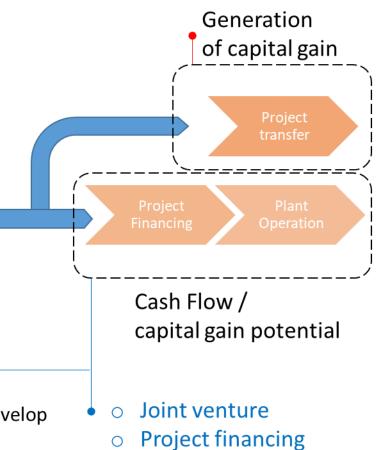
100% own equity / partnership Scouting Planning Permitting

### 3 axes to generate income

- ► 15% 25% margin on Sales of CST installations
- ► 1% 2% yearly Maintenance & Operation Fees
- SPV (ESCO) participations profits, IRR 6% 10%

By operating its own plants, AZTEQ will develop a "Heat as a service" business model with an ever increasing production base and cash flow

- Bank loan
- equity



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## **INDUSTRIALIZATION**

- For more then 20 year, Shandong Huiyin (Weihai China) has been a leading key component vendor for CSP installations worldwide
  - Volume effect sourcing reliability
- Azteq is a spin-off activity focussing on European industrial CST applications
  - Focused Front runner approach
- Azteq has preferred access for all CST key components from Huiyin
  - Contained risk for cost based competition
- Azteq organizes the (external) engineering and installation teams for each project.
  - Maximized outsourcing limited fixed costs
- Average delivery time from order to installation commissioning around 12 months
  - Depending on size
- As European CST volumes grow, Azteq will start European production of key components (3 to 5 years)







### MARKETING STRATEGY

- Azteq's initial focus is on Western European industries and cities. Azteq's strategy is to grow our existing CST footprint in Europe as quick as possible by focussing on the reduction of CO2 emission created by industries and cities. In this domain Azteq's roadmap show developments around other solar thermal solutions such as flat plates and smaller roofmountable trough based platforms.
- Azteq's ambition is to connect these CST platform into the Energy Internet and to become part of the overall energy system to get access to new markets and business models.

  In this domain Azteq's technology roadmap shows developments around intelligent integration with thermal storage (day/night, seasonal, flexibel,...), power conversion (ORC,...) and nextgen district heating) as well as new CST developments for H2 production, desalination, slabheat convserion,...
- Azteq's key partners:
  - Component vendors (Huying Group)
  - System Integrators
  - Resellers (Darel)
  - R&D partners (Energyville, DLR,...)
  - Local installations teams



## MARKETING / COMMUNICATION - ACQUISITION STRATEGY

- Azteq's growth strategy is based the combination of organic growth and targeted acquisitions:
- Organic growth:
  - Focus on Western European industry and cities
  - Install regional reseller/system integrator contracts managed by Azteq channel managers
  - When critical regional marketshare is reached, setup regional Azteq office with local resources
- Targeted acquisition to form the Super Solar Company
  - Azteq already acquired the German Engineering company Solarlite
  - Azteq's acquisition strategy is targeted at complementary international Solar experts with a market value between 1M and 10M Euro
- Marcom: offline and online communication
  - Target audiences: industries, cities/intercommunal and governments
  - Online via social media, specialized press, websites, seminars,...
  - Offline: networking platforms membership (Flux50, Euroheat, Solar Impuls Foundation, conferences, exhibitions,...)



### SALES CHANNELS

- ► At the moment we use:
  - direct sales in Belux
  - Reseller sales in the Netherlands (Darel)
  - Network of agents for other European countries.
  - Longer term strategy discussed on previous slide
- Most agents are on a no-cure-no-pay basis
- Reseller Darel has 6% margin on the sold Capex

Pitch deck - start-up or scale-up name



## **COMMERCIAL**: 3 Scenarios

- AZTEQ's first point of contact with a customer is the energy manager or the sustainability manager.
- ▶ The sales cycle is about 12 24 months, and accelerating
- AZTEQ has a commercial pipe with 30 40 projects in different states of progress.
- ▶ By acquiring Solarlite in 2020, AZTEQ has strengthened its footprint in Germany, one of the most important market
- For financial projections, we define 3 scenarios as follows:
- Ultra conservative scenario
  - 4 projects in 3 year, extremely delayed
- Conservative scenario
  - 9 projects in 3 year
  - Selection of projects with high Possibility Of Success
- Realistic scenario
  - 17 projects in 3 year
  - It is expected that these 17 projects will be realized in the coming 2,5 years
- Positive scenario
  - Not included for now
  - an upside potential can be predicted by the surge of interest in Germany and the acquisition of Solarlite



Name	CAPEX [k€]	Contract signed [mnt]	POS [%]	Operate SPV [Yes/No]	SPV participation [%]
Turnhout	1.700	01/03/2021	79,00%	Yes	50,00%
Bavegem	1.700	01/12/2021	73,00%	Yes	10,00%
Tielt	1.000	01/12/2021	73,00%	Yes	10,00%
Zwijndrecht	1.700	01/10/2021	66,00%	Yes	10,00%
Kinrooi 1	1.300	01/04/2022	66,00%	No	-
Kinrooi 2	740	01/04/2022	66,00%	No	-
Antwerpen	875	01/04/2022	66,00%	Yes	10,00%
Esch sA	3.100	01/06/2021	70,00%	No	-
Rostock - Laage	8.400	01/04/2021	90,00%	Yes	10,00%
Leipzig	10.600	01/10/2021	83,00%	No	-
Greifswald	10.600	01/04/2022	80,00%	No	-
Rostock 2	9.000	01/09/2022	77,00%	No	-
Caudete	1.400	01/09/2021	74,00%	Yes	10,00%
Sevilla 1	7.600	01/10/2021	84,00%	No	-
Sevilla 2	2.300	01/04/2022	77,00%	Yes	10,00%
Sagunto	715	01/10/2021	77,00%	Yes	10,00%
Santarem	1.350	01/06/2021	73,00%	Yes	10,00%



PROJECT #1	(example)
General	<ul><li>Location: Laage, Germany</li><li>Application: space heating &amp; cooling</li><li>On own land</li></ul>
Dimensions	<ul> <li>Mirror aperture: 13850 m²</li> <li>Thermal capacity: 6 MW</li> <li>Output: Hot water @ 90°C</li> <li>Thermal energy storage: 45000m³</li> </ul>
Financial	<ul> <li>CAPEX 8,4 mio€</li> <li>Subsidy: secured</li> <li>Financing: Investment fund via SPV</li> <li>Margin: 27% (via Solarlite)</li> </ul>
Time line	<ul><li>Pre-engineering secured : 300k€</li><li>FID : 2021Q1 (SPV being established)</li></ul>

- ► This is one of the larger projects in the portfolio
  - Secured (Investment Fund & Bank Loan committed)
  - Subsidized by German BAFA
  - Bankability demonstrated
    - 2,65% @ 15 years 2 year grace + bridge







1050 kWh/m²



Pit storage 90°C



Absorption cooling pump 700 kW

## FINANCIAL INFORMATION

- ☐ Income statement based on conservative scenario:
  - Result over 2020 2022 period
  - □ Number of employees remains limited (< 15 FTE):
    - Management (5)
    - ☐ Commercial (3 5) on Sales fee
    - ☐ Technical (3 5) in Solarlite team
    - Other functions are outsourced
  - ☐ Share of turnover from recurring fees will gradually increase with growing installed base
    - **□** O & M fees in 2023 : 425 k€ recurrent

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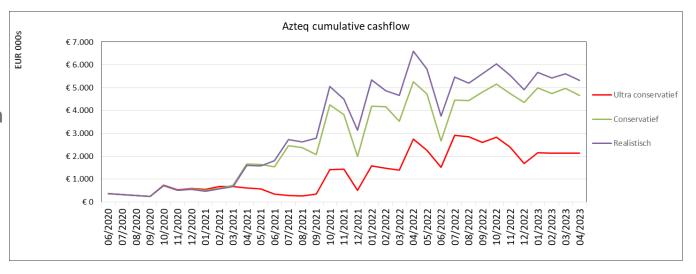
RESOLIS				
INCOME STATEMENT	Total	2.020	2.021	2.022
Operational revenues				
Total revenues	42.980	324	13.252	25.417
Operational costs				
Total costs	(37.567)	(427)	(10.416)	(22.643)
Depreciation & interest		-	-	
Depreciation	(560)	(90)	(179)	(184)
Interest payed	(46)	(5)	(27)	(10)
Taxes				
Tax for P&L	(1.004)	-	(365)	(640)
Profit after tax	3.785	(216)	2.267	1.939
CASH FLOW PAYMENT CASCADE Operational cashflow				
EBITDA	5.413	(103)	2.837	2.773
Movement in working capital	-	-	365	275
Investments				
Installations assets payable and pay	(200)	-	(200)	-
Taxes				
Tax for P&L	(1.004)	-	(365)	(640)
Financing		-	_	
Start liquid assets	375	375	-	-
Equity funding	960	960	-	-
Repayment	(1.839)	(452)	(1.240)	(21)
Interest payed	(28)	(1)	(19)	(5)
Cash flow	3.459	574	1.370	2.377
BALANCE SHEET Assets		2.020	2.021	2.022
Fixed assets		1.925	3.447	3.263
Current assets		1.179	2.549	4.926
Total assets		4.825	6.216	8.409
Liabilities				
Equity		1.840	4.472	6.686
Debts		2.984	1.744	1.723
Total liabilities and shareholder fund	ds	4.825	6.216	8.409
. C.a. Habilities and charcifolder fulle		7.023	0.210	0.403



### **FUNDING**

- Financing Need
  - Short Term: 1,25 M€ required as a pre-caution to remain cash positive in ultra-conservative scenario
  - Medium Term: 1 5 M€ may be required to realize external growth if opportunities do occur
- ► 60% (750k€) of the Short Term Financing need has been secured already by October 2020
  - all by private persons including management
  - Company valuation @ 8 M€ pre-money
- ► 40% (500k€) remaining, by preference from Financial Partner(s) <u>like Industrya</u>

  - Capable to support mid term funding requirements
- ► AZTEQ may consider a public offering in 3 5 years, if extra funding is required in a positive scenario



(in kEUR)

### **Funding Needs**

	Short	Medium	
	Term	Term	
Private investors - Secured	80	2	
Old partners	80	:	
Private investors - Secured	250	2	
New partners & Management	250	ŗ	

Private investors - Secured	420	2
New partners	420	ŗ

TDD	E00	1000 -
IRD	500	5000

	1250	up to
	1230	5000

### **Funding destination**

Short	Medium
Term	Term
775	
180	
	Term 775

Sales & Marketing	70	
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Solarlite Acquisition	225	
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Growth	1000 -
	5000

1250	up to	
	5000	



### CONCLUSION

- ► AZTEQ applies for a 500k€ raise of capital in short term
  - Note: As an alternative, a 500k€ mezzanine loan, for 5 7 year, would be helpful too
- ► The AZTEQ management is confident that the presented scenarios are understating the potential
  - ► The Sustainable Energy market is developing fast, in particular for Heat
  - Several R&D projects may result in accelerated demand
  - External growth opportunities have been identified.
- ► Internal and external growth beyond the presented scenarios may require additional funds in 1 3 years



### PROTECTION OF INNOVATION - INTELLECTUAL PROPERTY

AZTEQ is mostly using technology with expired innovation protection

- ► 2 exceptions :
  - Azteq has license agreements with HuiYin for key components : defensive given preferred relationship
  - Patents owned by Solarlite in Direct Steam Generation : offensive for future CSP projects

AZTEQ is working with several Institutes on innovative projects

- This secures access to the realized innovations
- ► See next page for overview this is excluding the (German) projects with Solarlite involvement.



# R&D: Ongoing and finalized projects - partnerships



VLAIO - FLUX50 Haalbaarheidsstudie Finished 2018 - 2019



Living Lab

AGROPOLIS

FLUX50 - Shipit Feasability study Applied 2020

integration

Potential CST Haven Antwerpen Multi-modular networking Thor

Double land use in agricultural sector

Heat storage

Containerized
3 bar - 130°C

Granulate + oil
high temperature

Modulair Heat Transport

coating

### Uhard

diamond coating

ERANET - approved 2019 - 2021

**▶** UHASSELT

IMO-IMOMEC

umec

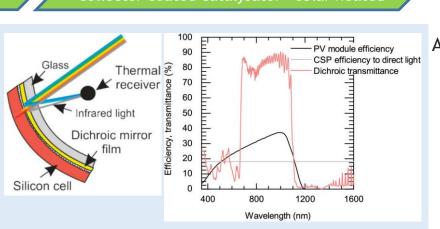
# CSP+

PV + dichroic mirrors

ICON - FLUX50 approved 2020-2022



Medium temp H<sub>2</sub> electrolysis collector coated catalysator - solar heated



umec vito

VITO - IMEC SBO "ADDHog" Applied 2021 - 2022