ACT: the wind turbine blade for a NET-ZERO future

Raising Series A €5m equity

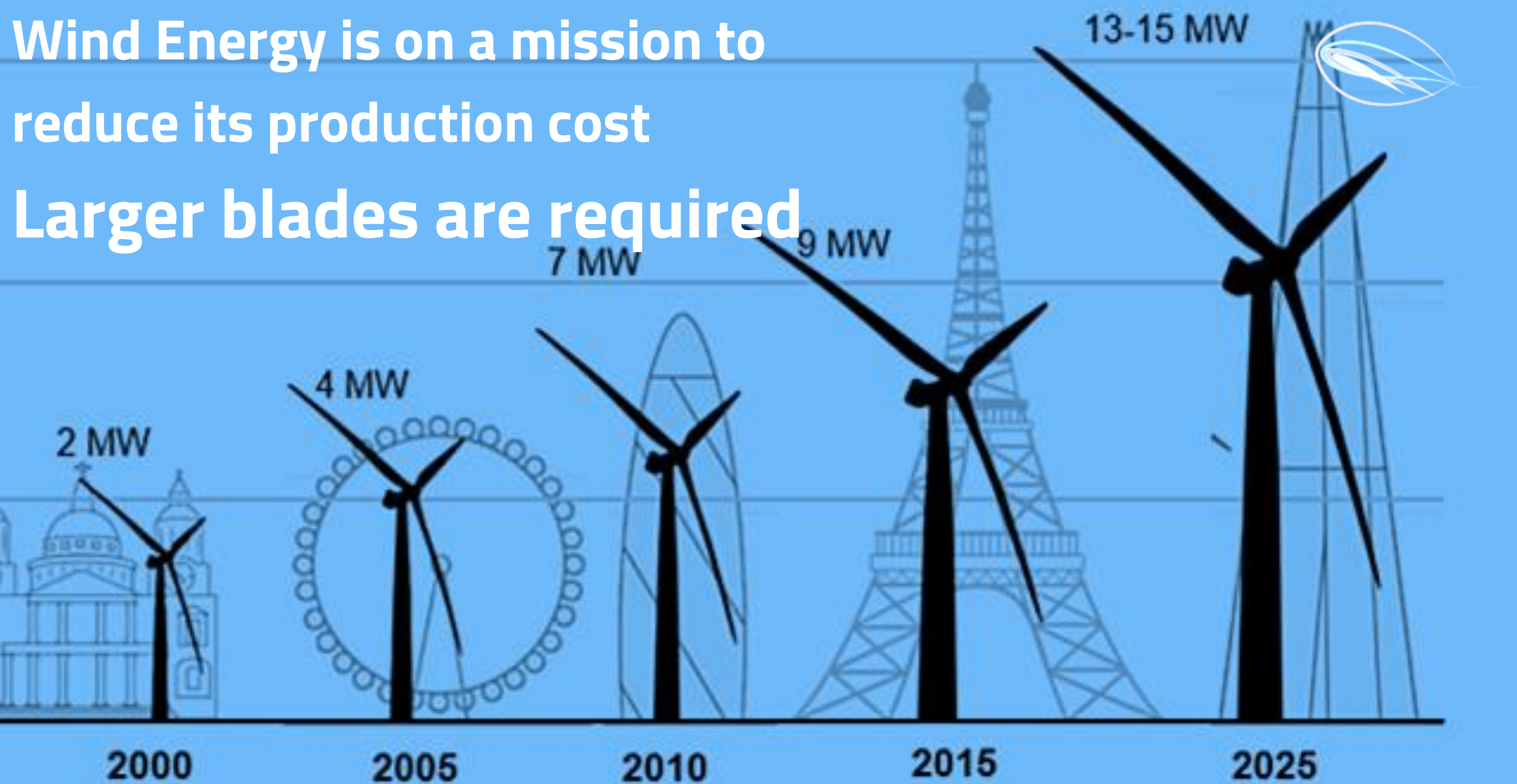**Sabrina Malpede**

ACT Blade - Managing Director

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enel
Green Power

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Proudly selected for
TECH NATION
NET ZERO

Powered by
CATAPULT
Offshore Renewable Energy

Wind Energy is on a mission to reduce its production cost

Larger blades are required

2 MW

4 MW

7 MW

9 MW

13-15 MW

2000

2005

2010

2015

2025
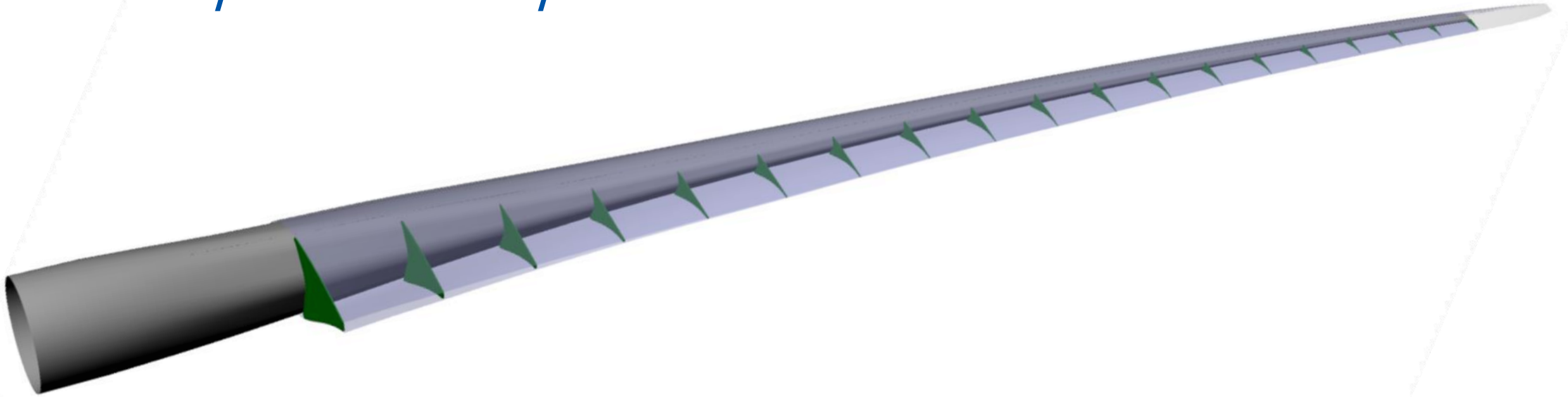
Sources: Various; Bloomberg New Energy Finance

2

Current blades are

- **Very heavy**

- **Produced with expensive tools and processes**

- **Difficult to transport**

- **Difficult to recycle**

75m long blade facility -Siemens Gamesa Facility Hull - UK

Our solution: **ACT Blade**

made of a slim **composite structure** and fully covered by **textile**

Why ACT Blade?

32% Lighter

+9% Energy

-7% LCOE

Leaner manufacturing

-24% labour

-60% Tooling

-47% Factory

5

Note on comparison data: 50m blade performance is based on data provided by BVG Associates - ACT Blade performance is based on current MVP configuration.

ACT Blade IP position
Two main innovations

Manufacturing method

- ❑ **Granted :**
  - ❑ **UK, China, US**
  - ❑ **Europe** (Validated in DK, Fra, Ger, Ita and UK)
- ❑ Country application started in Apr 2018 in **India**

Integrated shape control system to reduce blade loads

- ❑ **Granted:**
  - ❑ **Europe** (validated in ITA, DK, Ger, Fra, UK)
  - ❑ **China**
- ❑ Country application started Jun 2019**: US and India**

ACT Blade Technology Status:
Full scale prototype tested in lab and operating conditions

Structural tests completed - Mar 2021
Offshore Renewable Energy Catapult – Blyth –UK

Static, fatigue and post-fatigue

ACT blades generating energy since 30.Jul.2021
Energy Technology Centre – Meyers Hill- Glasgow - UK

Till 08.11, ACT blades generated 56,469 kWh ~ energy to power a large family house for **15years**

Go-to-market plan

vision

EU leading blade manufacturer by 2030

ACT blades for onshore wind turbines~ €18bn yearly

market entry

REBLADE: retrofit longer ACT blades on existing turbines

10 yrs.-old 2MW turbines

€42m till 2026 ITA, UK, FRA, GE uncontested

customer

Wind farm owners

Want to increase asset productivity

Repowering not possible/favourable

Advantageous in subsidised markets

product

ACT100: 49m long blade

+ 9% blade length

+ 8% energy

+ 5years life

+15% IRR

partnership

Early adopter LOI

~25% of ITA market

Textiles

Control

OEM

Management team

- Commercialization of innovative solutions
- Team and Resources mngt
- Sale and financing process
- Blade design and manufacturing

Dr Sabrina Malpede
Managing Director

- ~20yrs experience in design and commercialization of innovative solutions based on her PhD.
- PhD in Aerospace Engineering
- Extensive network across UK and Italian industry, government authorities and universities.

Dr Donald MacVicar
Technical Director

- 17 yrs experience in managing and developing innovative solutions for the marine and wind energy industry
- BEng in Electronic & Software Engineering
- PhD in Computer Science

Mr John Rimmer
Chief Specialist

- >20years experience in blade design and manufacturing.
- Senior Director of Rotor Engineering and Managing Director of the Vestas blade manufacturing UK
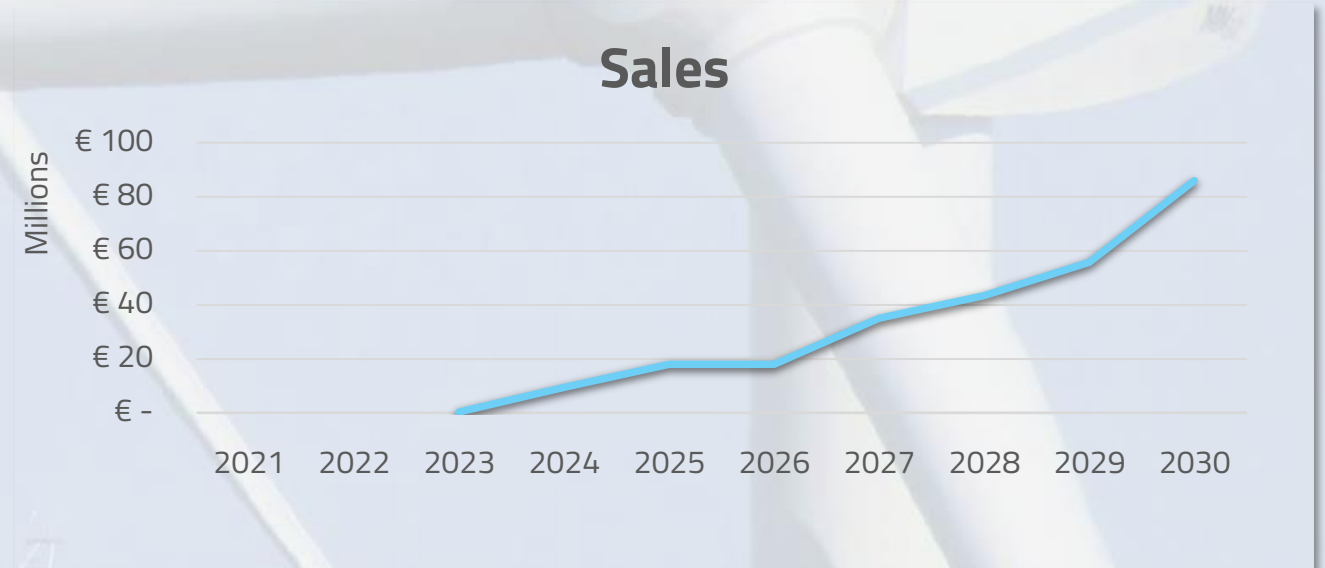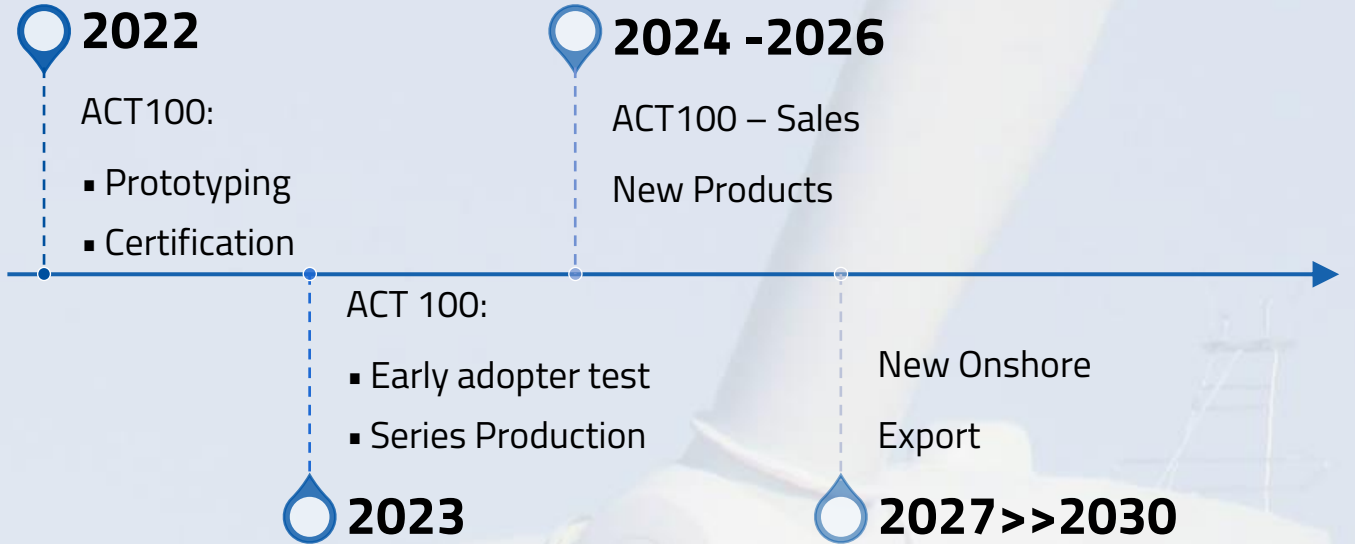- Meng Mech Eng and Material Science

Dr Alessandro Rosiello
Non-Executive Director – Finance

- Business economist
- PhD in Economics from Strathclyde University.
- He teaches Entrepreneurial Management and Finance at the University of Edinburgh.

Series A
ASK: €5mil (equity)

2022

ACT100:
- Prototyping
- Certification

2023

ACT 100:
- Early adopter test
- Series Production

2024 -2026

ACT100 – Sales

New Products

2027>>2030

New Onshore

Export

Sales

€ 100

€ 80

€ 60

€ 40

€ 20

€ -

Millions

2021 2022 2023 2024 2025 2026 2027 2028 2029 2030

Why invest in ACT Blade

- Apply racing-yacht technology to wind turbine blades
- Highly engineered textile used to cover the entire blade surface
- Leaner production

Game changer wind energy technology

- Founders have >17 experience in commercialising innovative solution in the marine industry and blad manufacturing
- 7 R&D team members, specialists in aerodynamics & composite structures

Strong entrepreneurial and engineering team

- Heading to emerging and untapped Life extension market
- €18bn market per year by 2030
- ACT Blade fits the low wind & 5MW platform trend

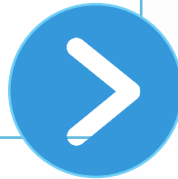**Big & Scalable Opportunity**

- ~24% lighter enabling 10% longer blades, meaning 9% more energy -7% cost of energy
- -60% tooling cost, -47% factory, -24% labour
- Patented technology

Competitive advantages

- €10.5m total raised
- EIT InnoEnergy winner
- Tested prototype
- Early adopter LOI
- DNV Statement of Feasibility

Traction

- By 2030:
  - -274ktCO2 (.08% EU target)
  - +937GWh (.02% EU target)
- Modular and cheaper to produce, it increases use of wind energy
- Easier to recycle

Towards NET-ZERO contribution

- Pilot commercial product with early adopter
- Market entry
- Sales pipeline
- Supply chain

Raising €5m equity

THANK YOU