

TWAICE

Munich RE 

WEBINAR

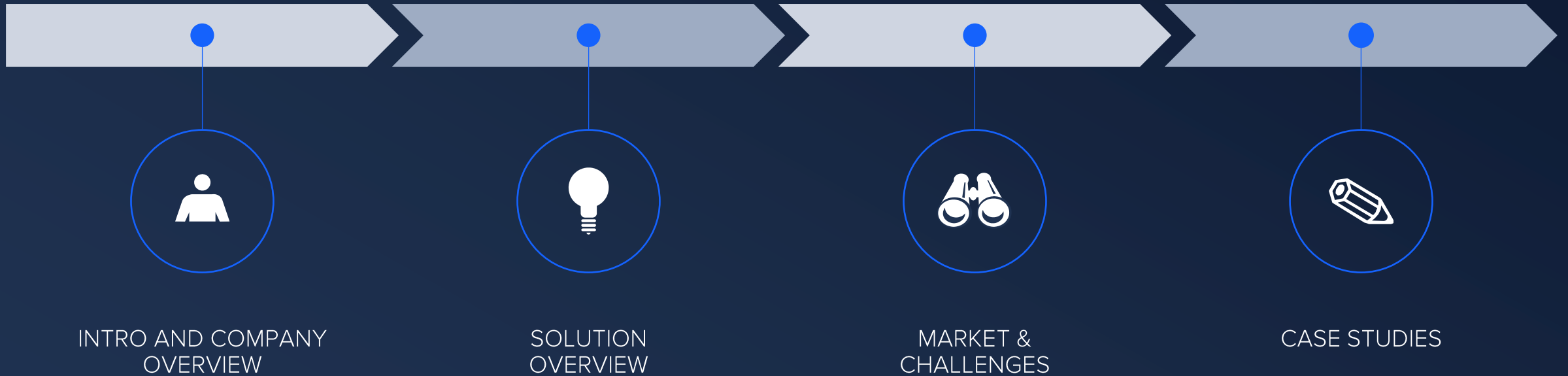
FREEDOM TO OPERATE YOUR ENERGY STORAGE AT WILL

Munich, 10/4/2021

pV magazine

GOAL OF TODAY

TODAY, WE WANT TO DEMONSTRATE HOW BESS PLAYERS CAN BENEFIT FROM OUR JOINT APPROACH



MUNICH RE GREEN TECH SOLUTIONS

AT A GLANCE

20+

Renewable Energy Experts

€5bn+

Capacity available for Green Risk Transfer

10+

Innovative Insurance Products for Green Energies globally introduced and launched

700+

Renewable energy projects enabled and insured

€40bn+

In green investment supported with performance warranties

200+

PV sites audited – Own Test Field since 2013



MICHAEL SCHREMP

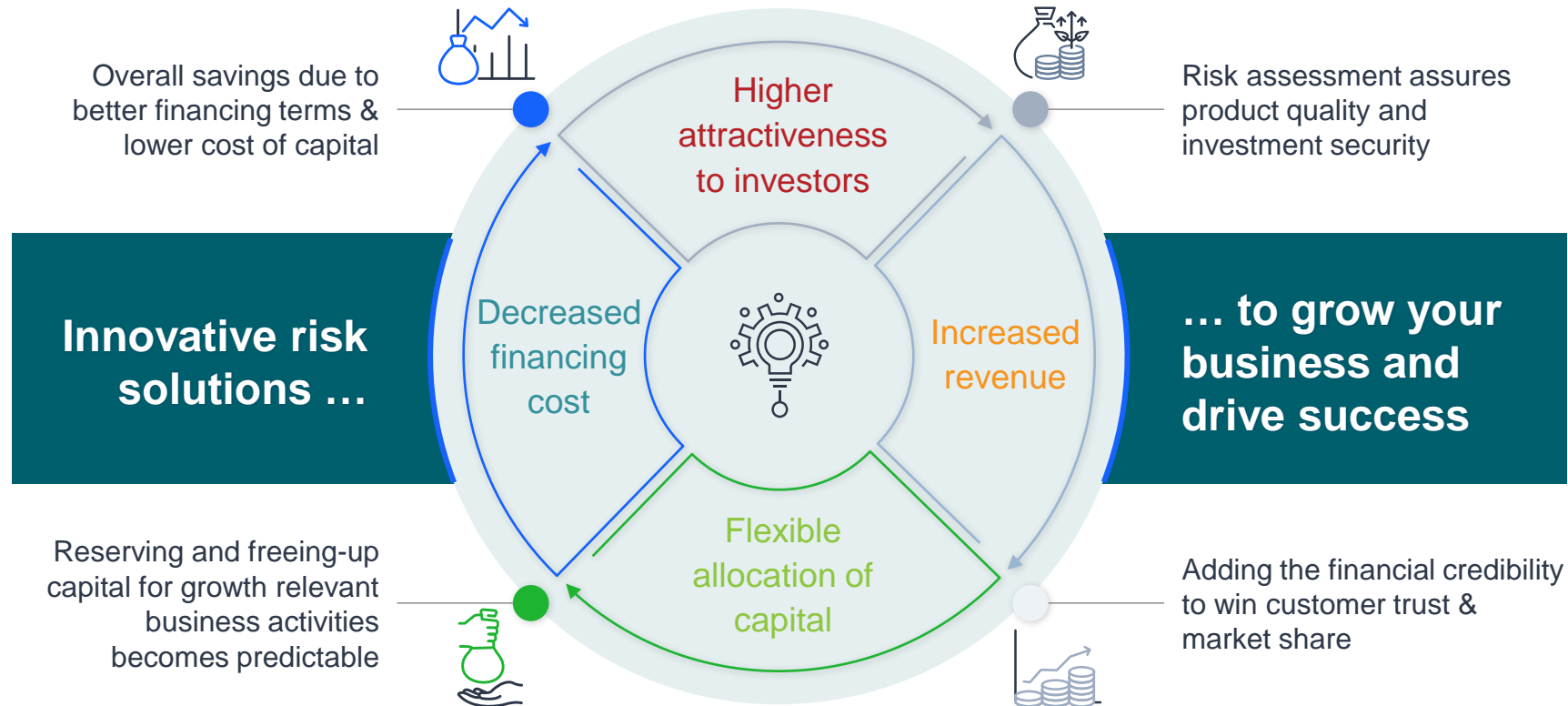
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VALUE PROPOSITION



BATTERY ANALYTICS SOLUTIONS BASED ON STRONG BATTERY, MACHINE LEARNING & SOFTWARE EXPERTISE

- 75+** battery & software engineers and data scientists
- 20+** patents
- 10+** industry partners, incl. Munich RE & TÜV Rheinland
- 25+** battery simulation models
- 200+** cell testing channels onsite



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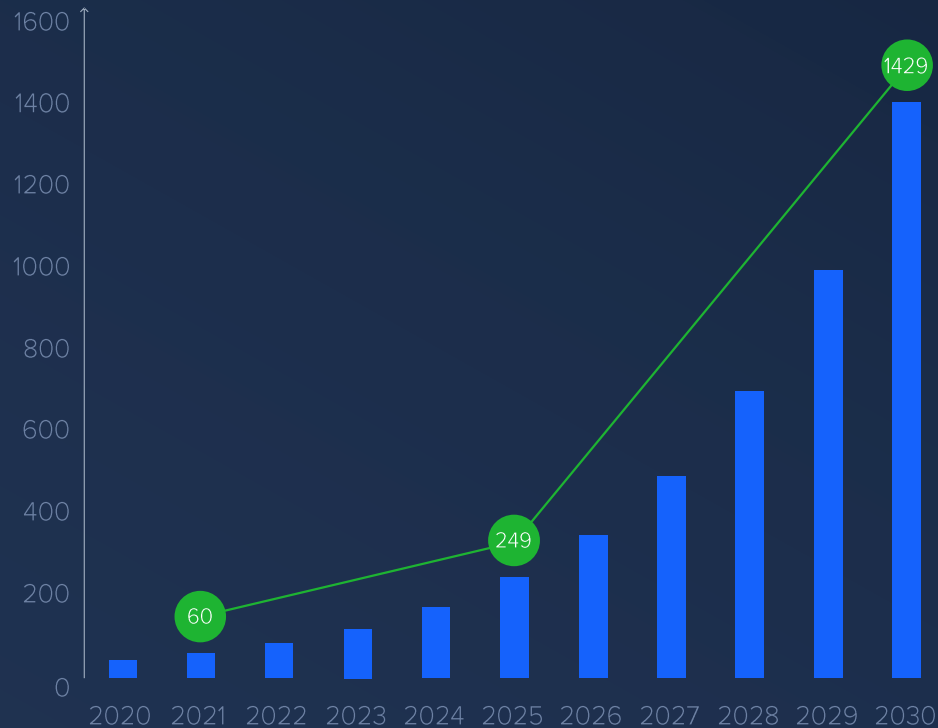
Industry, mobility and, above all,
people depend on a reliable energy supply.

HELPING YOU GENERATE THE VALUE OF A LIFETIME



THE MARKET IS BOOMING – BUT SOMETHING IS STILL BLOCKING

INSTALLED ENERGY STORAGE SYSTEMS [GWH]



MYSTERY ESS EXPLOSION SPARKS FEARS OVER LITHIUM SAFETY FUTURE

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"If the developer has contracted to provide a certain amount of power over time [...] it will just build a bigger system. Again, this is not an efficient way of doing it. There needs to be a robust, financially stable insurance market for these products[...]."

-Sam Jaffe, MD, Cairn Energy Research Advisors

Software: The driving force putting batteries at the heart of the energy transition

Software 'crucial to the bankability of energy storage'

TECHNICAL CHALLENGES AND RISKS...

HEALTH MONITORING

- Lacking transparency about battery health and lifetime
- Data is available yet remains un-used for storage optimization
- No single source of truth for battery insights across the portfolio



OPERATING STRATEGY PLANNING

- No insights into the degradation of different operating strategies
- Lacking transparency on costs of cycling prevents selection of best strategy
- Volatile market and changing regulatory environments require flexibility

WARRANTY PROCESS

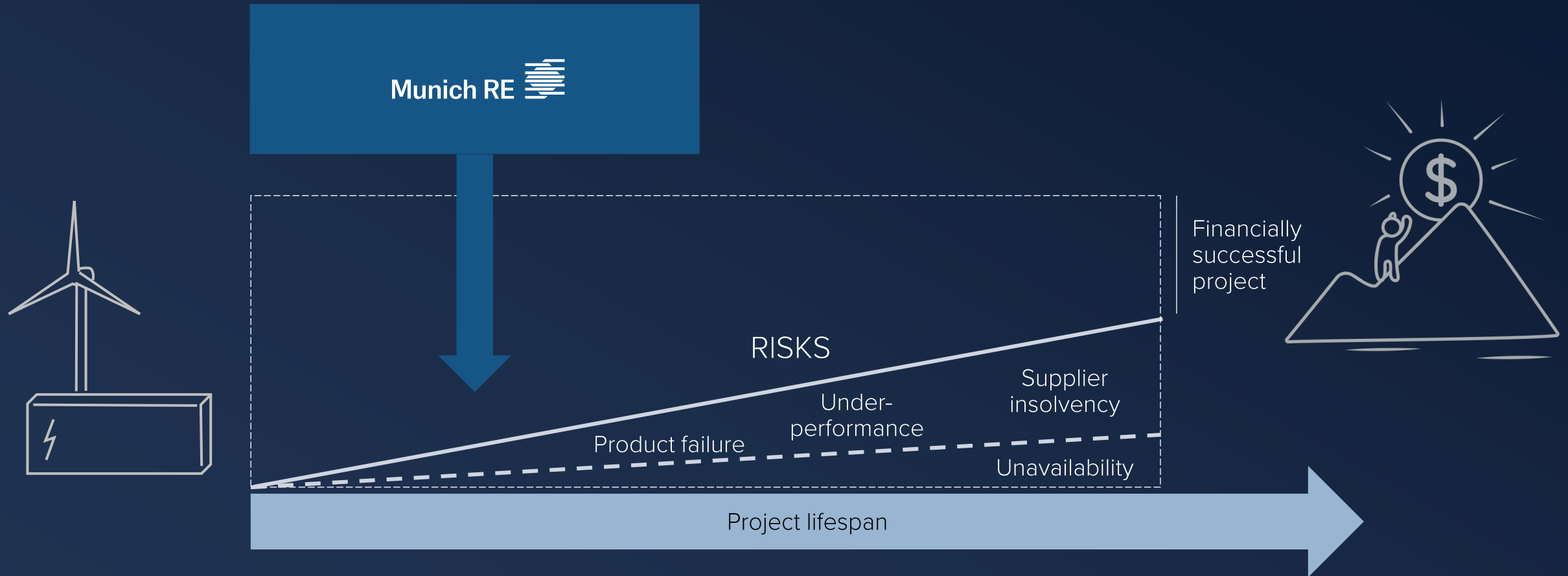
- Complex and individual warranty conditions
- Resource-intensive (manual) analyses and communication
- Warranty coverage is at risk when operating strategy is changed

...TRANSLATE INTO 3 MAJOR FINANCIAL RISKS



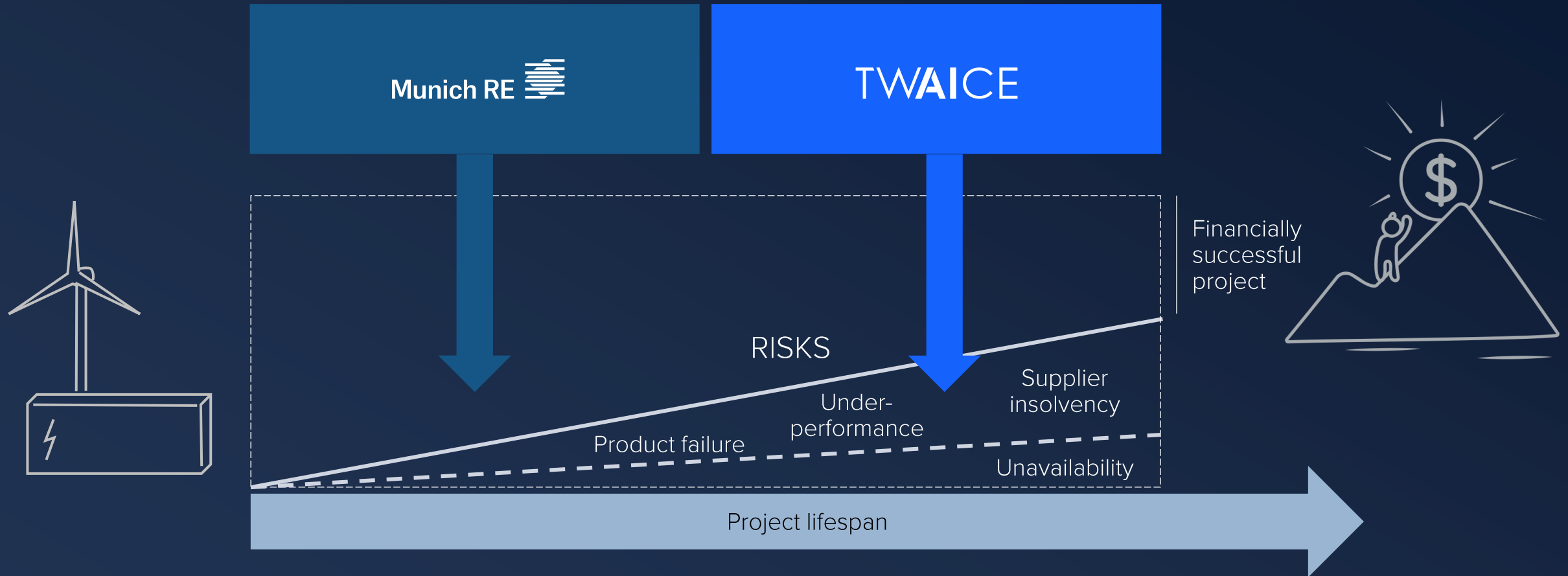
TWO PLAYERS – ONE MISSION

FROM INSURANCE BASED ON YEARS OF EXPERIENCE AND PROPRIETARY DATA...



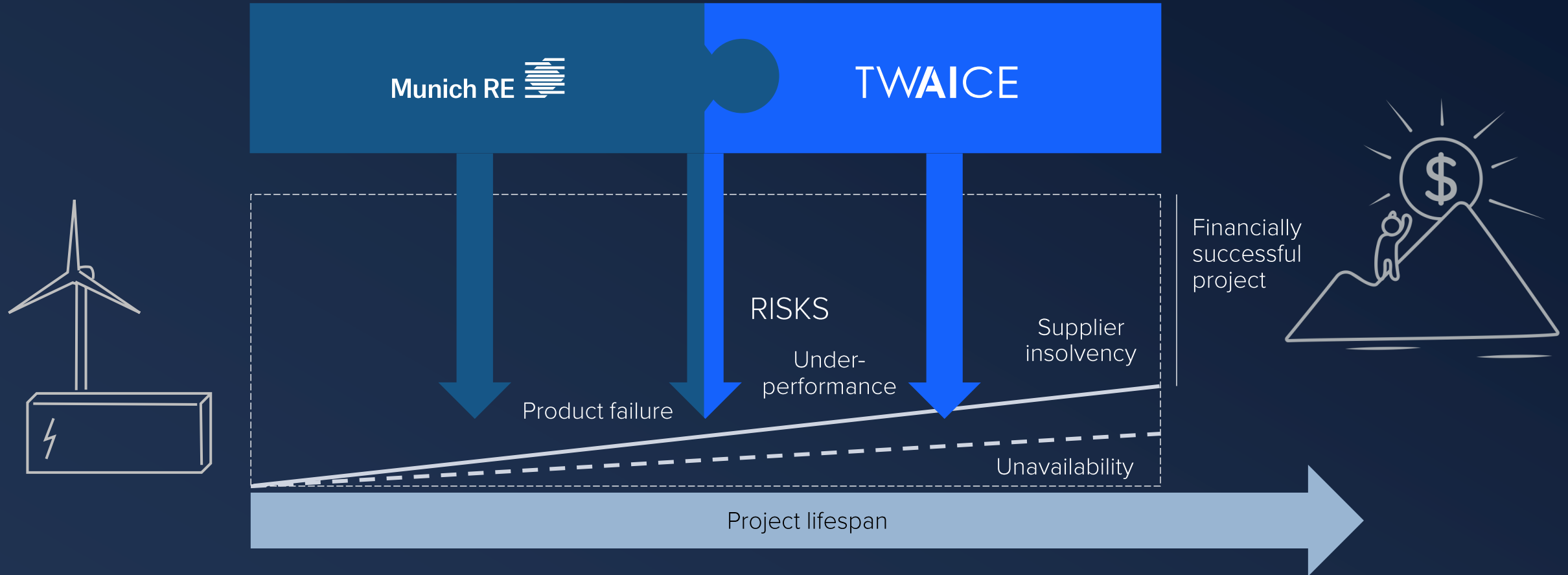
TWO PLAYERS – ONE MISSION

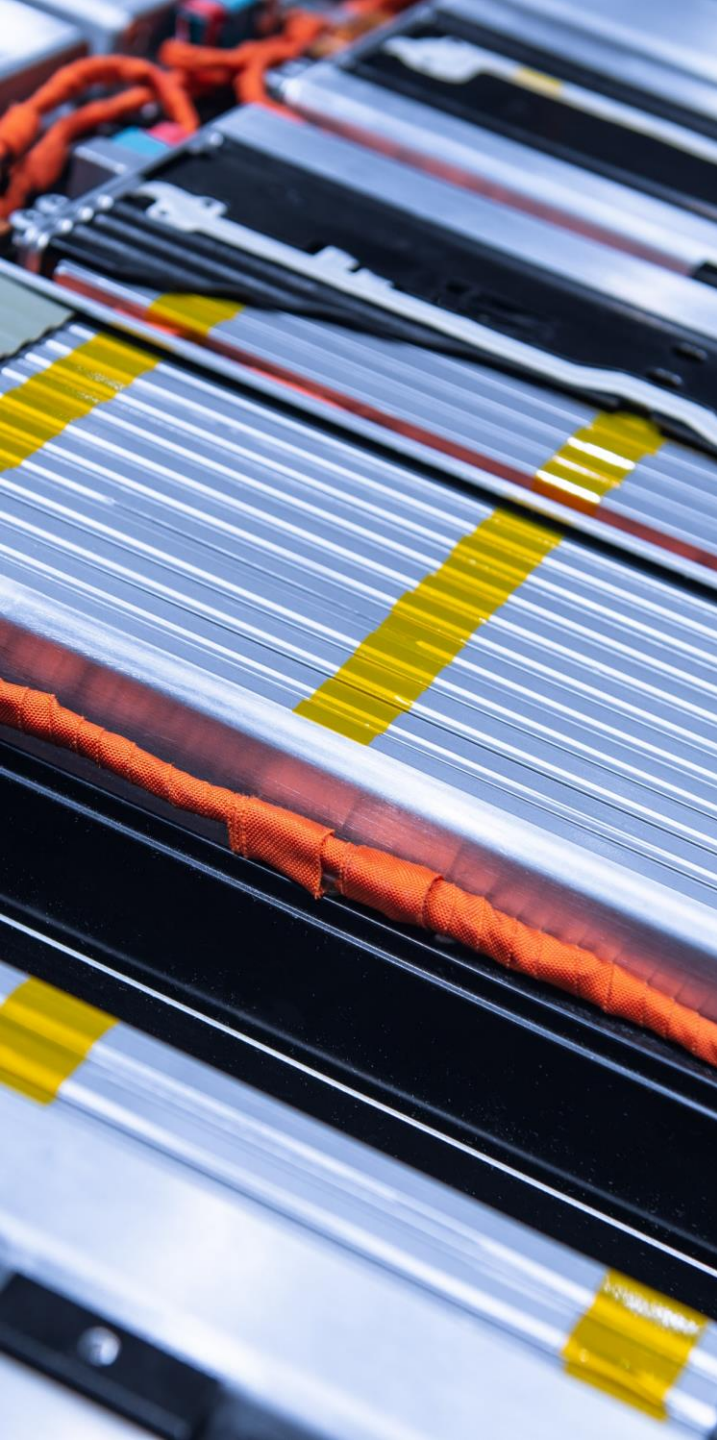
... AND CUTTING-EDGE BATTERY ANALYTICS...



TWO PLAYERS – ONE MISSION

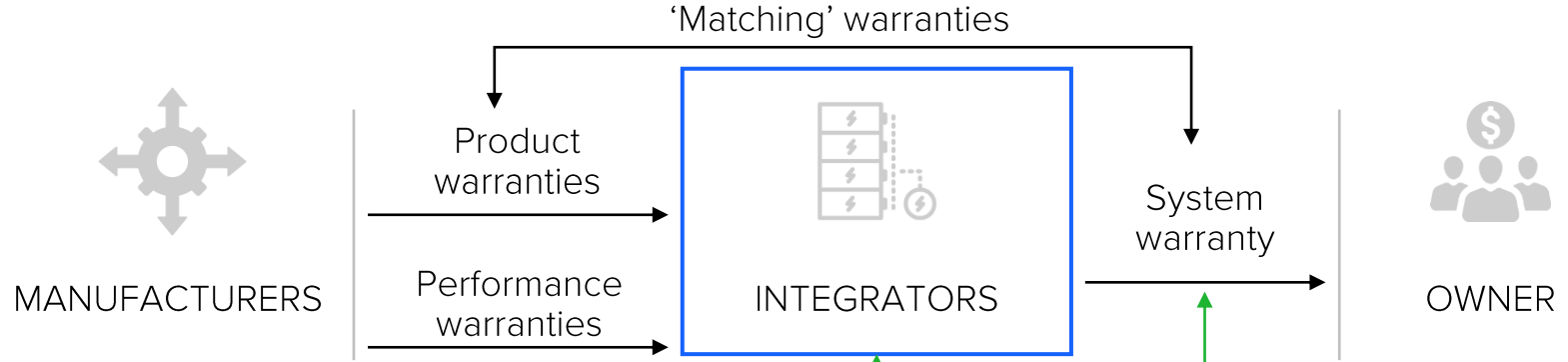
... TO TECH-ENABLED RISK ASSESSMENT AND AVOIDANCE





SYSTEM WARRANTY COVERAGE

SITUATION



SOLUTION



VALUE

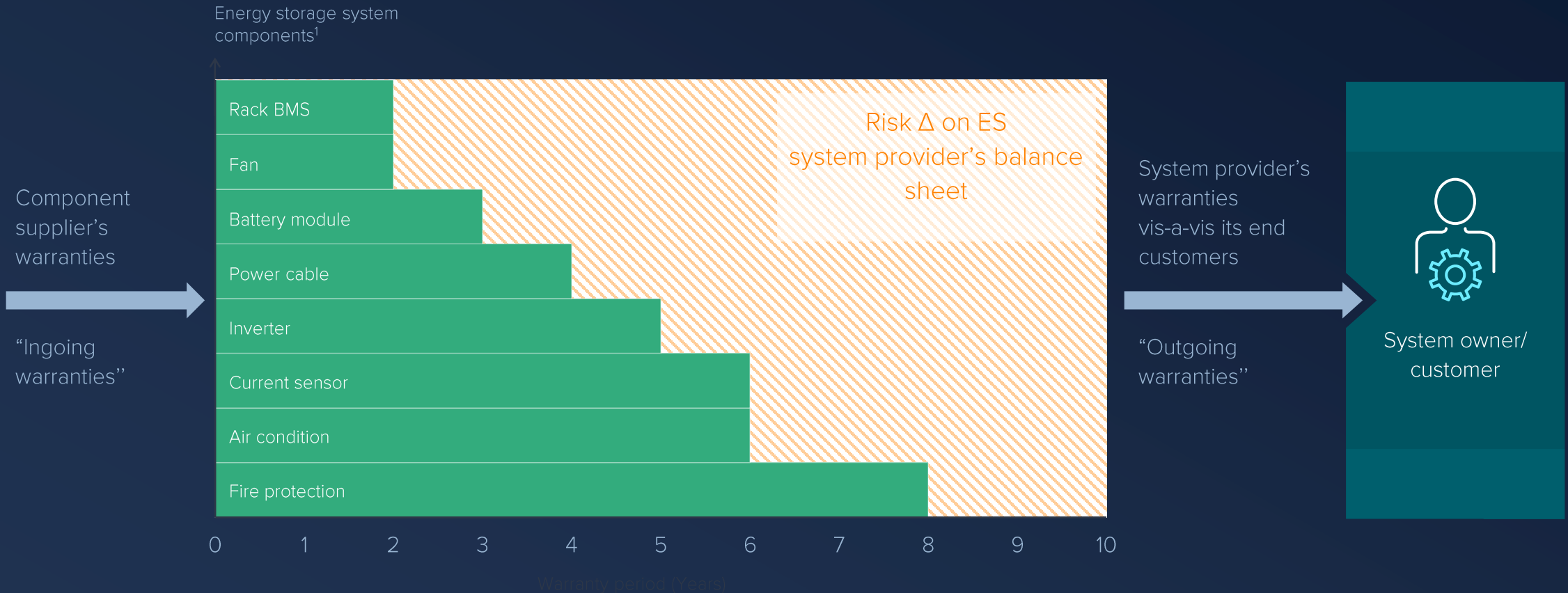
- Cap maintenance cost
- Increase financial predictability and free trapped capital
- Support sales and marketing

“We underestimated the **impact on sales** this would have – our clients say that they **enhance the bankability of their projects** – also they benefit from the TWAICE battery cloud.”

- CEO, German integrator

DEEP DIVE: CASE STUDY 1

SIGNIFICANT RISKS OF ENERGY STORAGE SYSTEM PROVIDERS ARE EVOLVING

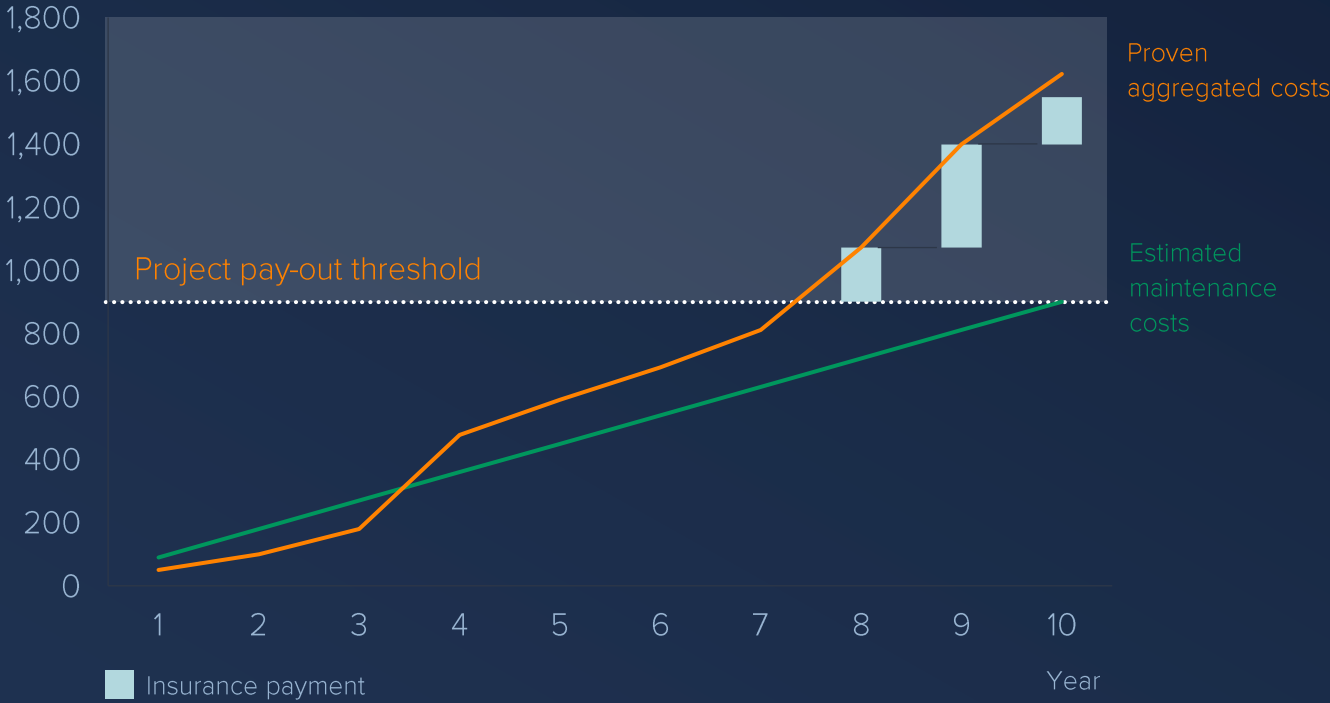



1) Every bar in the energy storage system components axis represents one component with its respective number of ingoing warranty years by the original component supplier

DEEP DIVE: CASE STUDY 1


THE MUNICH RE ENERGY STORAGE SYSTEM COVER IS A SAFE OPTION FOR YOU

Maintenance spending
(in K US\$)





Excessive maintenance costs are covered by insurance



Planned maintenance is provided by system provider

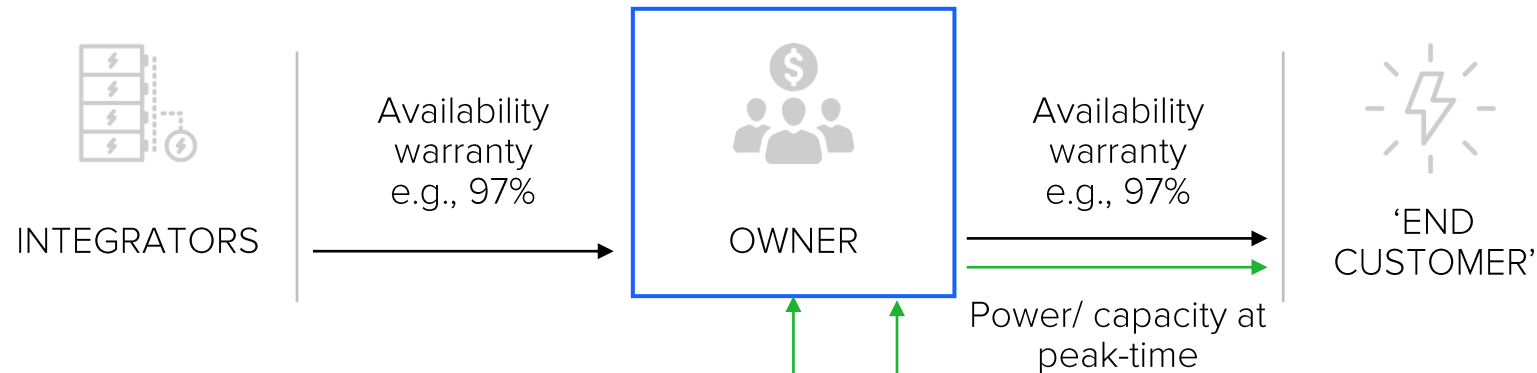
WARRANTY TRACKER



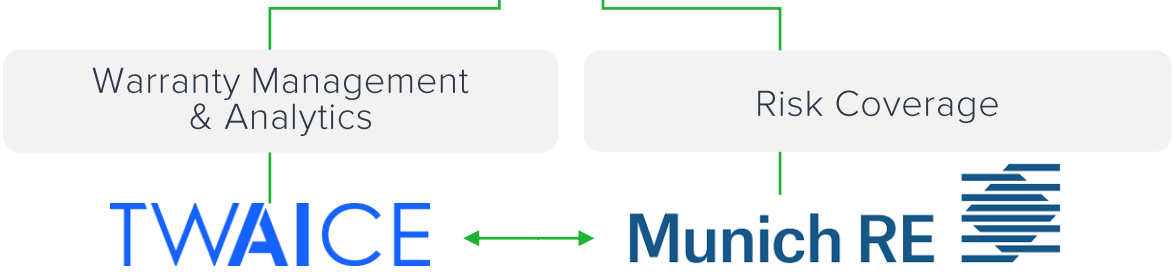


PEAK TIME AVAILABILITY

SITUATION



SOLUTION



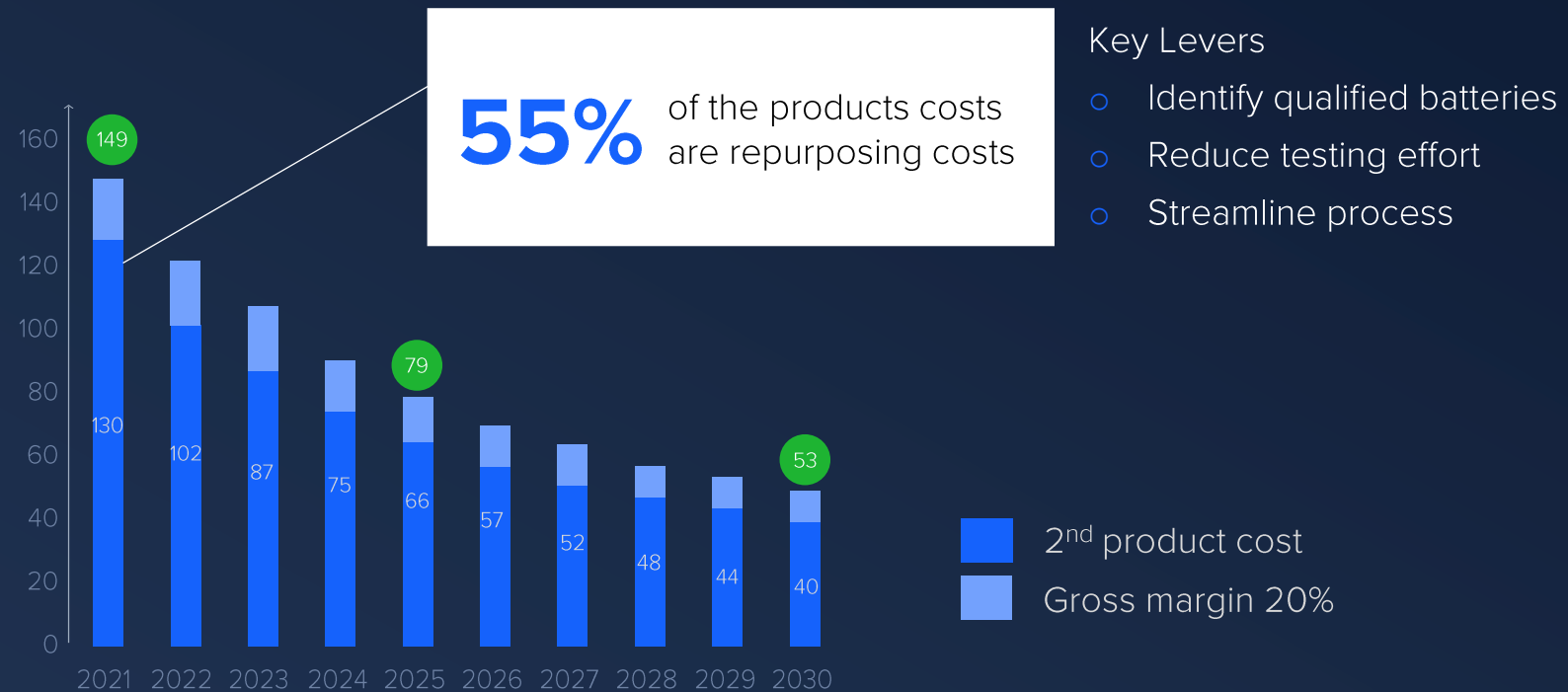
VALUE

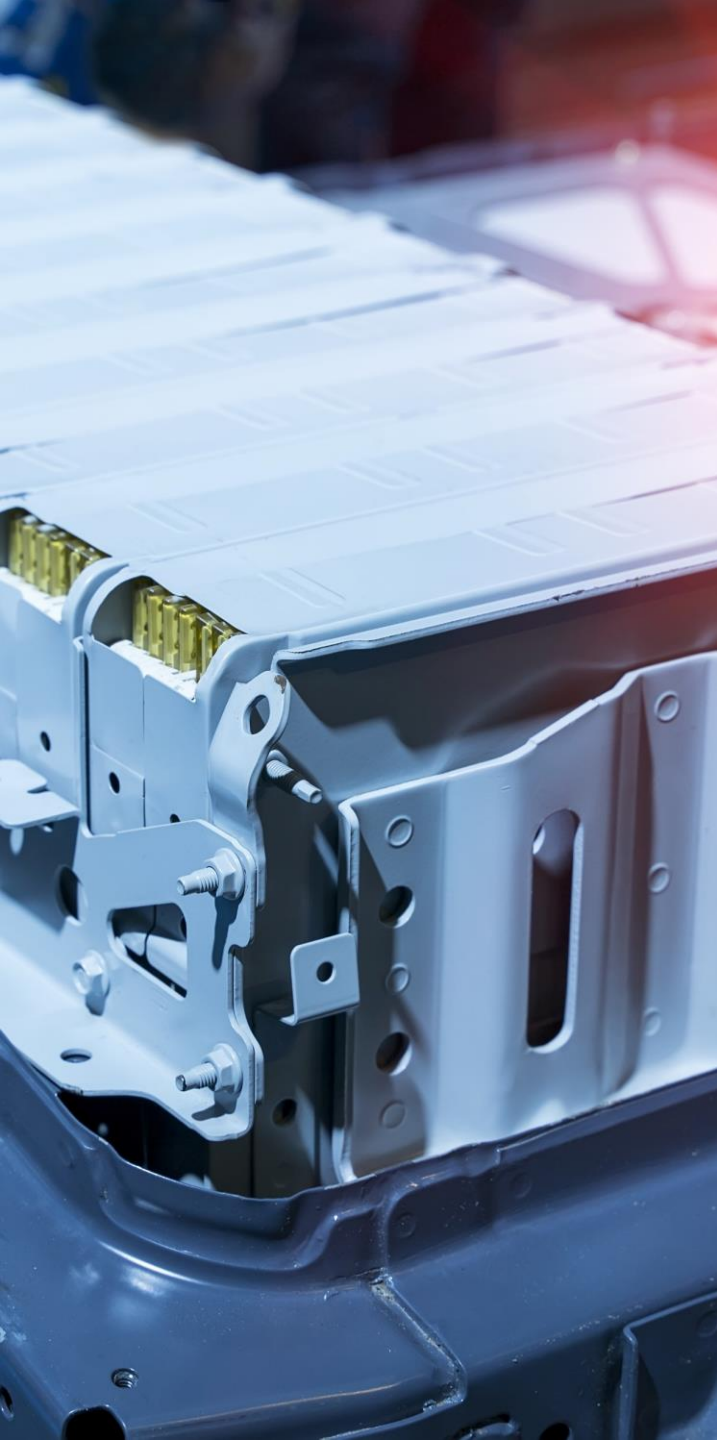
- Decrease technological risk
- Decrease risk of penalties
- Support sales and marketing

“With a BESS that is precisely tailored to the particular load profile, consumers **can save up to 90 percent** of their network charges. [...] Particularly in the case of the capacity charge, an unplanned “failure” easily costs a **five-digit euro sum.**”

- EM-Power Europe 2021

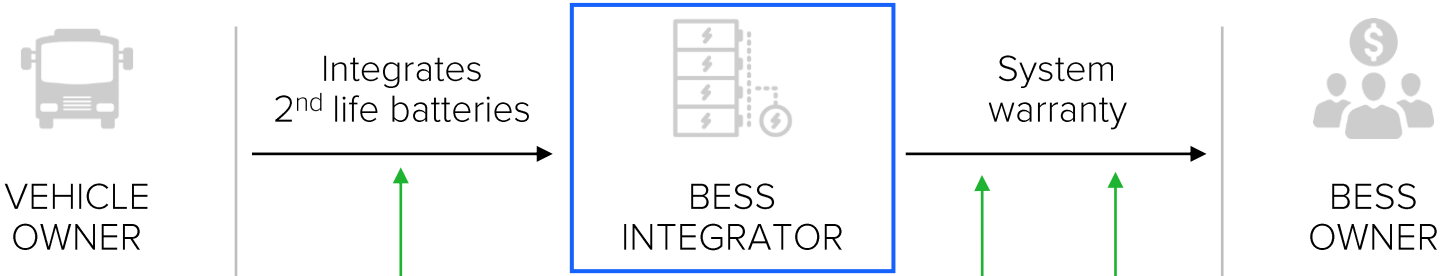
OUTLOOK: INCREASING THE ACCEPTANCE/DEMAND FOR 2ND LIFE BATTERIES





EXTENDED 2ND LIFE WARRANTY

SITUATION



SOLUTION



VALUE

- Repurposing costs are reduced up to 50%
- Decrease risk of penalties
- Support sales and marketing

WE HELP TO ACCELERATE THE TRANSITION TO GREEN ENERGY – SECURE YOUR BUSINESS CASE TODAY

IDEA OF OUR JOINT CAPABILITIES

- Munich RE and TWAICE enable the protection of your BESS
- Standalone yet even stronger together
- A wide range of solutions is ready for you



REACH OUT!

CUSTOMIZATION POSSIBLE

- Dynamic and developing market – differences between countries
- We are looking forward to dialogues about new solutions
- In the Energy industry – and outside of it, e.g. in the automotive industry



OR MEET IN PERSON!



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QUESTIONS?



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An aerial photograph of a dense green forest serves as the background. A semi-transparent blue rectangle is overlaid on the left and center of the image. Within this blue area, there are several white, wavy light trails that suggest movement or energy. The text 'TWAICE' is positioned in the upper left of the blue area, and 'Munich RE' with its logo is in the upper right. The phrase 'TWO PLAYERS, ONE MISSION' is centered in the lower half of the blue area.

TWAICE

Munich RE 

TWO PLAYERS, ONE MISSION