





BATTERY MEETS  
ADVANCED TRADING

# suena

AUTOPILOT FOR ENERGY STORAGE

FULLY TAPPING INTO THE  
POTENTIAL OF BATTERY  
STORAGE

Dr.-Ing. Lennard Wilkening  
CEO & Co-founder



7 BEZAHLBARE UND  
SAUBERE ENERGIE



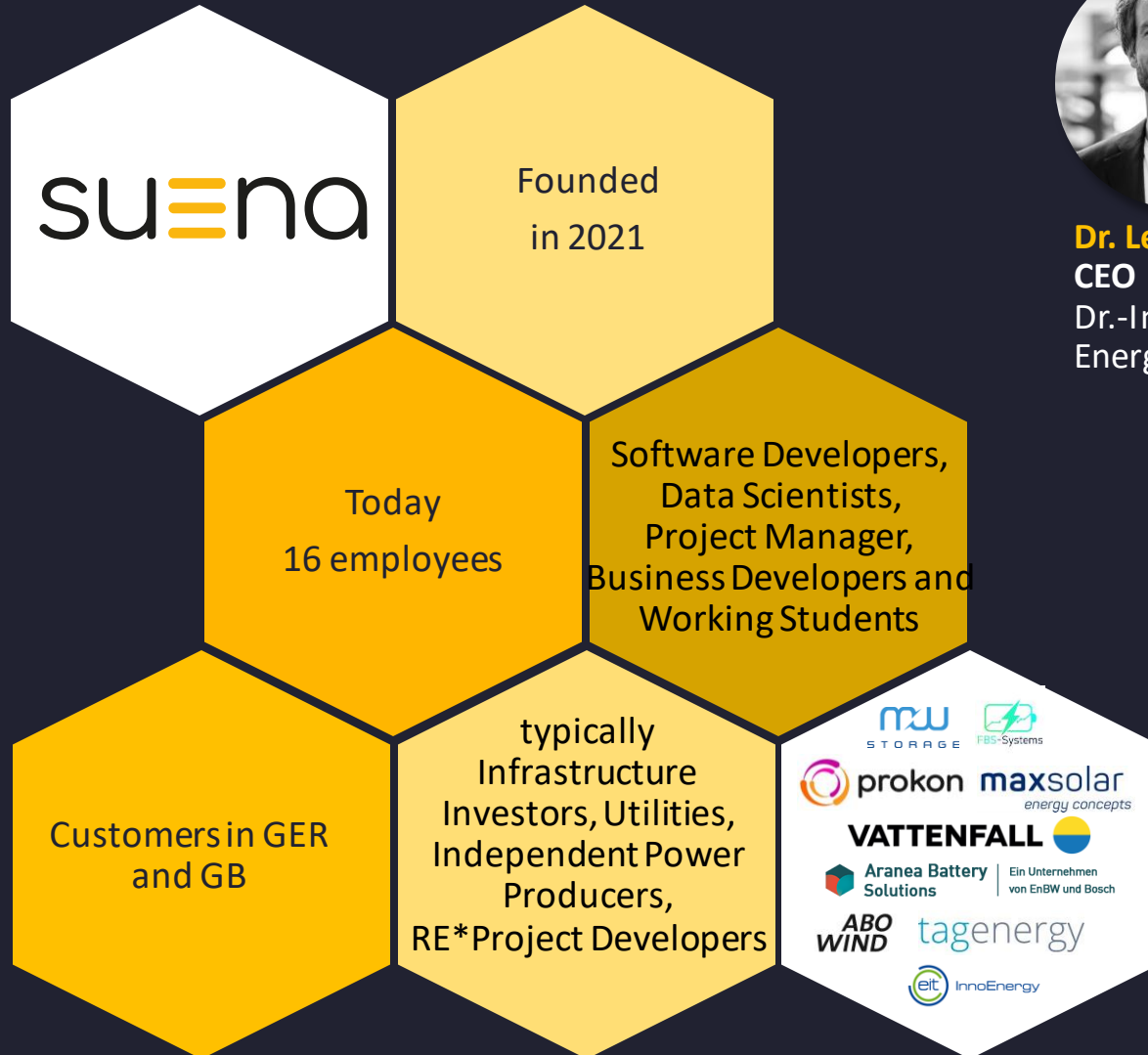
9 INDUSTRIE,  
INNOVATION UND  
INFRASTRUKTUR



13 MASSNAHMEN  
ZUM  
KLIMASCHUTZ



# WE ARE su=na



**Dr. Lennard Wilkening**  
CEO  
Dr.-Ing. Electrical Power & Energy Technology



**Tom Witter**  
CTO  
M.Sc. Computational Engineering Science



**Miguel Wesselmann**  
CFO  
M.Sc. Mechatronics + M.A. Techn. Management



# OUR SOLUTIONS

## ANALYTICS AS A SERVICE



### Insights and Advice

- Revenue Simulations
- Sizing
- Business Case Evaluation
- Warranty Design
- Real-Time Benchmarking
- Market Insights

## OPTIMIZATION AS A SERVICE



### Automated Optimization

- Commercial Asset Optimization
- Scheduling
- Wholesale Markets
- Ancillary Services
- Self-Consumption
- Peak Shaving

## TRADING AS A SERVICE



### Optimized Trading

- Commercial Asset Optimization
- Route to market provider
- Scheduling and Execution
- Wholesale Markets
- Ancillary Services



THIS IS

THE ENERGY

STORAGE DECADE

Yayoi Sekine, Bloomberg NEF, 2021

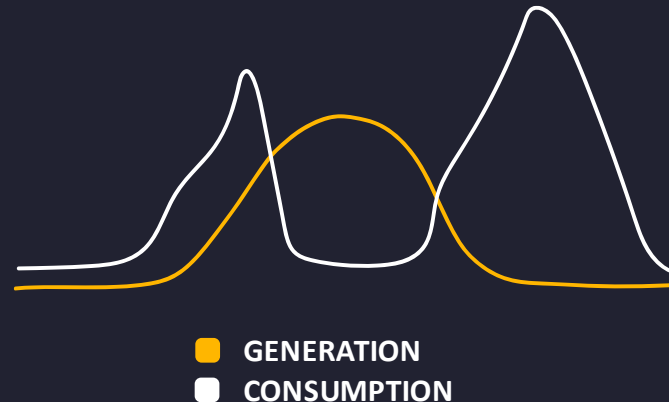
# BATTERY STORAGE DRIVES THE ENERGY TRANSITION

## RENEWABLE EXPANSION



2022	255.5 GW	208.9 GW
2030 RePower	510 GW	592 GW

## RENEWABLE INTEGRATION



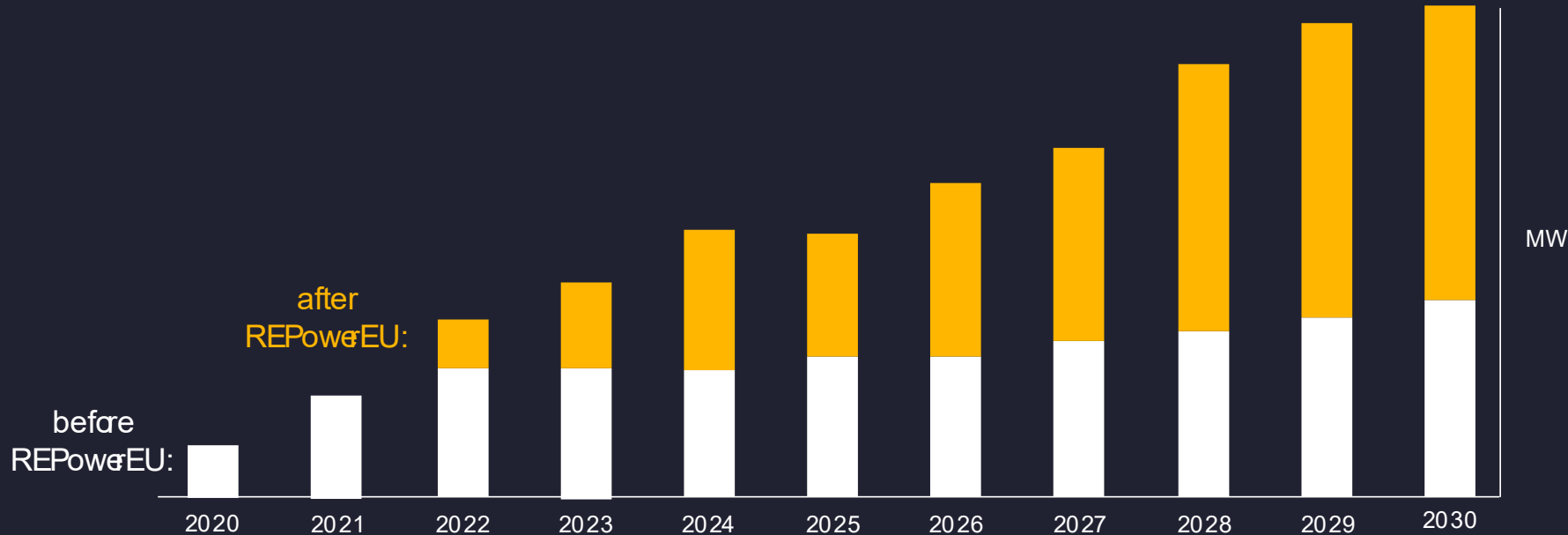
RES come with decentral and intermittent energy generation not adjustable to our demand



Batteries provide the necessary flexibility for decoupling

# WE NEED ENERGY STORAGE PROFITABLE & EFFICIENT

Battery Energy Storage Installations Forecast (MW) in Europe, Adjusted According to REPowerEU Projections



Source: FLUENCE Energy

5GW  
in  
2023

50GW  
by  
2030

HOW TO ATTRACT INVESTMENT TO REACH **50GW** BY 2030?

# CHALLENGES OF ENERGY STORAGE



Business Case depends on  
Energy Trading strategy

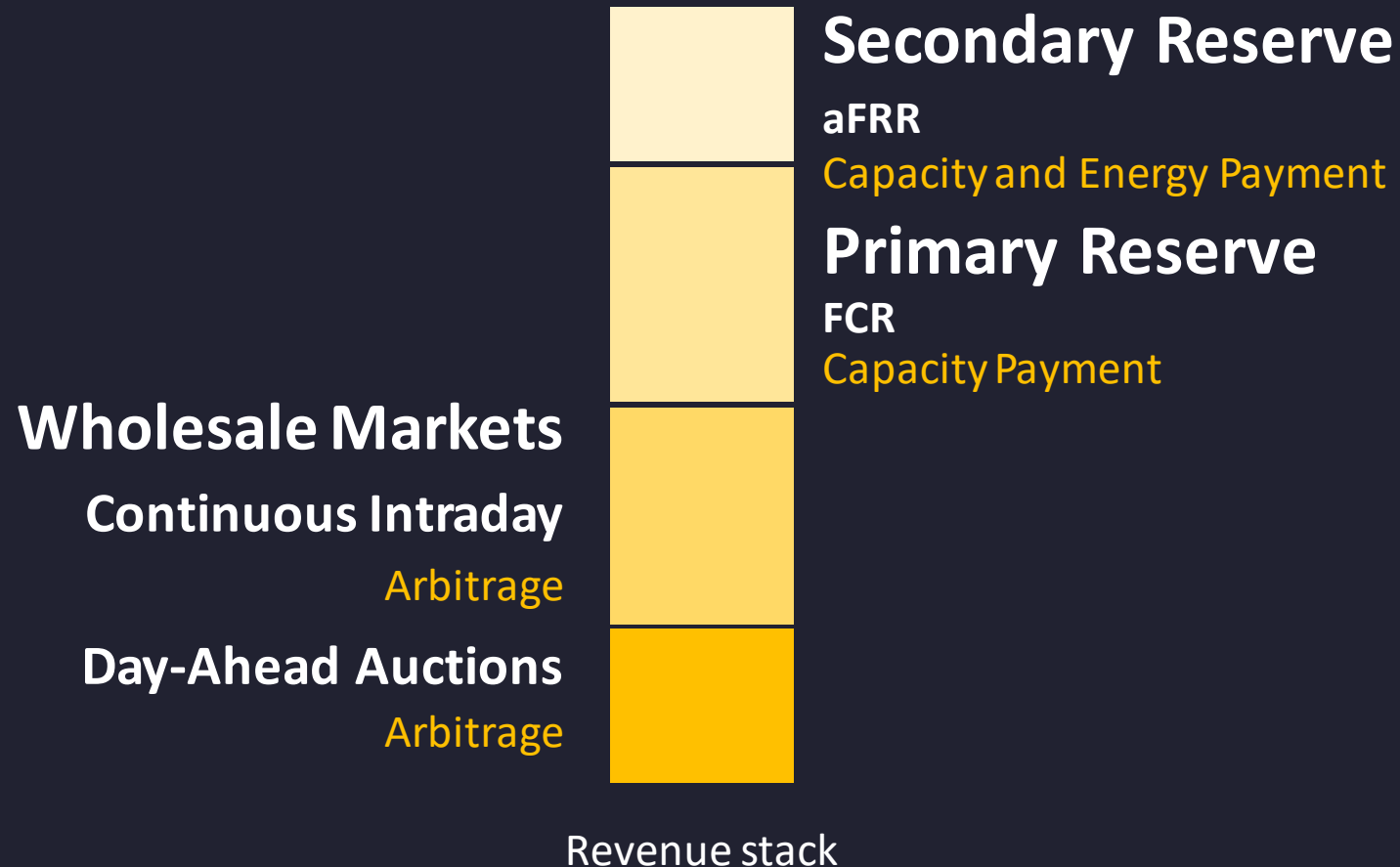


long-term revenue stability  
only possible with  
**Multi-Market trading**



Optimization software  
needed to handle  
complexity

# LEADING PERFORMANCE FOR ENERGY STORAGE = MASTERING MULTI-MARKET



# EUROPEAN MARKETS EVOLVE



## WHOLESALE MARKETS

Increased and sustained value



## ANCILLARY SERVICES

FCR/AFRR start saturating and revenues go down but new markets come up



## REGULATIONS

and market design are expected to change in the closer future

HOW TO STAY FLEXIBLE IN CHANGING MARKET ENVIRONMENTS?

# REVENUE STREAMS CHANGE – WE HAVE TO ADAPT



From the PAST to the FUTURE

Application only  
in ancillary  
services

Revenue maximizing  
combination of all  
relevant revenue  
streams

BATTERIES ARE SOFTWARE  
DEFINED ASSETS

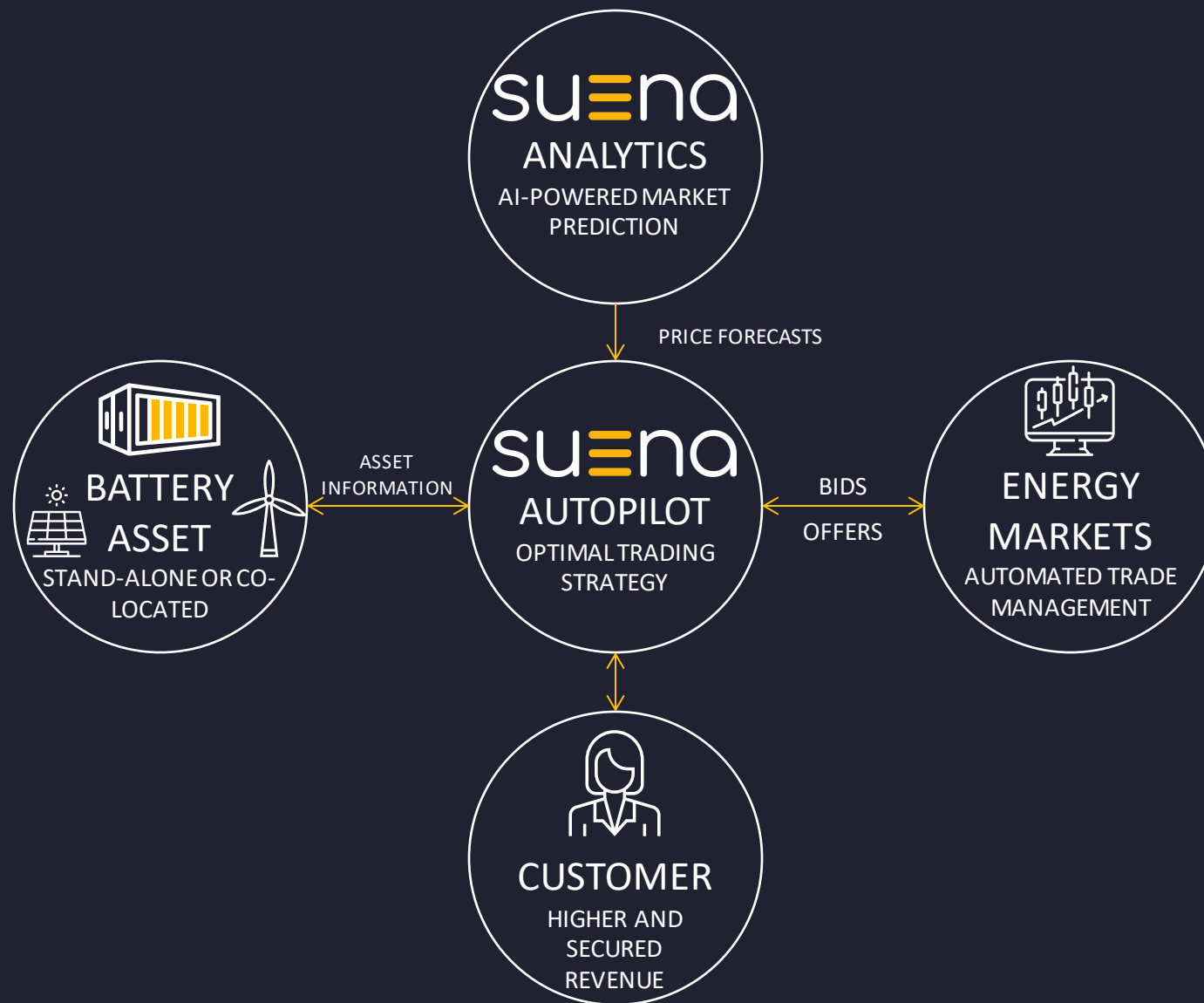


IT IS AT US TO APPLY THEM  
STRATEGICALLY AND PROFITABLY

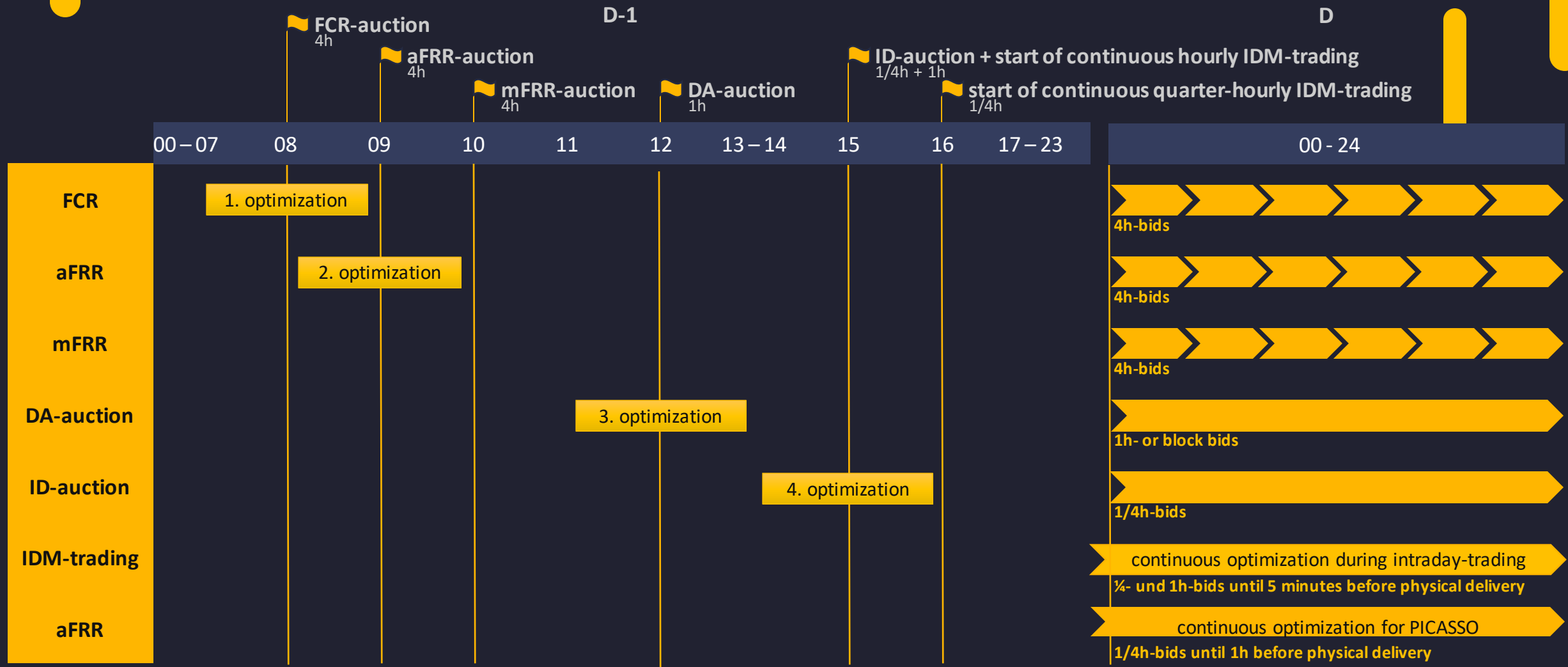
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# AUTOMATED MULTI-MARKET TRADING

multiple markets x several hundred products at a time creates millions of data points



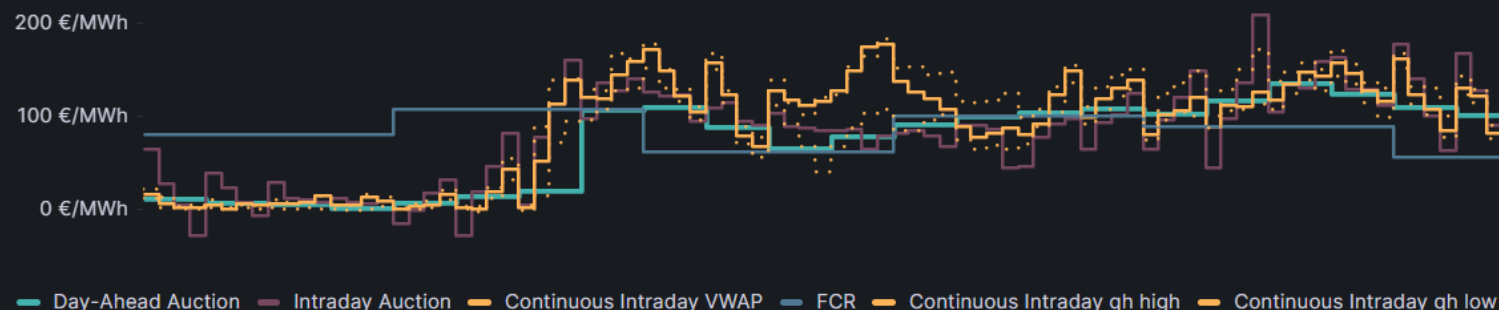
# TAKING TRADING DECISIONS



# DECISION MAKING



Market Prices



Market Power

10 MW

5 MW

0 kW

-5 MW

-10 MW

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GIVING US THE OPTIMIZED  
DISPATCH SCHEDULE

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## CASE STUDY: 2h-system

**Capex** Xxx €/kWh

Opex xxx

Internal Rate of Return (IRR)	15 %
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<b>Payback Period</b>	5,5 years
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**Lifetime** 13 years

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# OUR VISION

TODAY



EMPOWERING GRID SCALE  
BATTERY STORAGE

- stand alone and  
co-located

TOMORROW



UTILIZING ALL FLEXIBILITY  
IN THE GRID

-demand side flexibility  
-further storage technologies  
-aggregated EV, home storage..

FOR A FUTURE  
POWERED BY  
100%  
RENEWABLES

# THANK YOU



**Dr. Lennard Wilkening**  
Founder & CEO  
[lennard@suena.energy](mailto:lennard@suena.energy)  
[suena.energy](https://suena.energy)

Reach out to us  
if you have questions

or if your battery storage  
needs to be integrated in a  
profitable business case