Empowering designers to Build a Greener & more Sustainable Data Center





Optimizing project design

Today's DTC's must provide **continuous service** that ensures high **reliability & sustainability.**

DTC's of **tomorrow aim** to deliver this + substantial **savings in both CAPEX and OPEX.**

Certain designs **minimize the need for redundant hardware** and **optimize resource utilization**, leading to **lower capital costs**.

The **'Block redundant' or 'Catcher'** architecture provides **all of the above!**



Optimizing project design

Benefit from block redundant (Catcher) architecture distribution



François LEGRAND
International Specification Manager
FBS, MEA & S. Europe



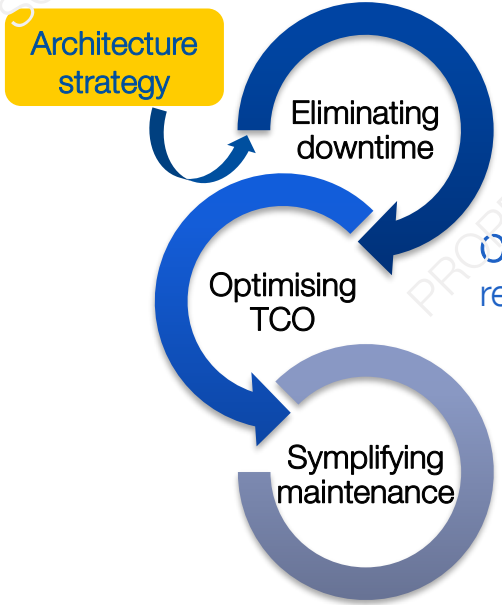
Clément BARTHELMEBS
UPS Product Marketing Manager



Applying Block Redundant (catcher) Architecture
Rethink the way to Design Your Data Center

Reduce Capex
ELECTRICAL DISTRIBUTION OPTIMISATION

Resiliency
MAINTAINING A HIGH LEVEL OF RESILIENCE



Data Center availability level is based on the architecture resiliency

CAPEX / OPEX and Carbon Footprint result from architectural choices

Maintenance complexity arises from electrical distribution architecture

PROPERTY OF SOCOMEC

Rethink the way to Design Your Data Center

Different approach for data halls design



Hyperscale
Up to 100MW



Colocation
Up to 50MW ++



Corporate & Telco
Up to 5 MW



Edge
Up to 500kW

Cost optimisation approach

Scalability at Data Hall level

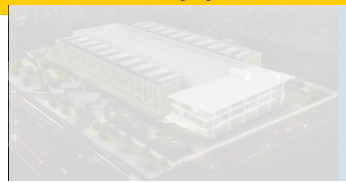
Conservative approach

Scalability is made of modularity

PROPERTY OF SOCOMEC

Rethink the way to Design Your Data Center

Different approach for data halls design



Hyperscale
Up to 100MW



Colocation
Up to 50MW ++

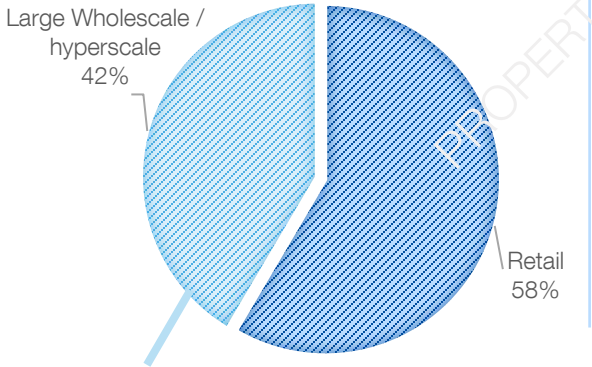
Corporate & Telco
Up to 5 MW

Edge
Up to 500kW

Colocation Data Center

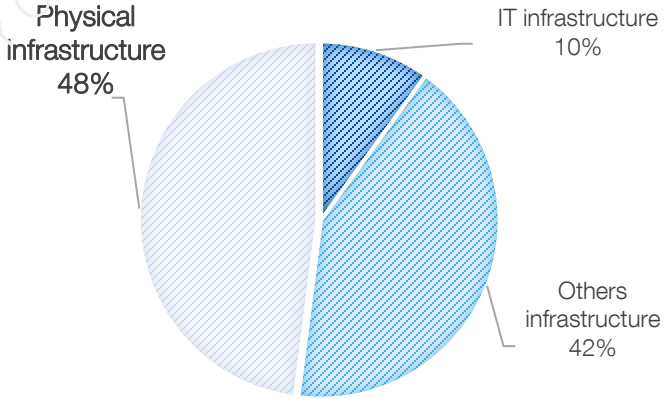
> Most **hyperscalers outsource** nearly all requirements to **large colocation providers** to achieve **faster speed to market** and **capitalize on the colocation providers' expertise.**

COLOCATION INVESTMENT
32B$



CAGR 2023 – 2028
20%

INVESTMENT SPLIT

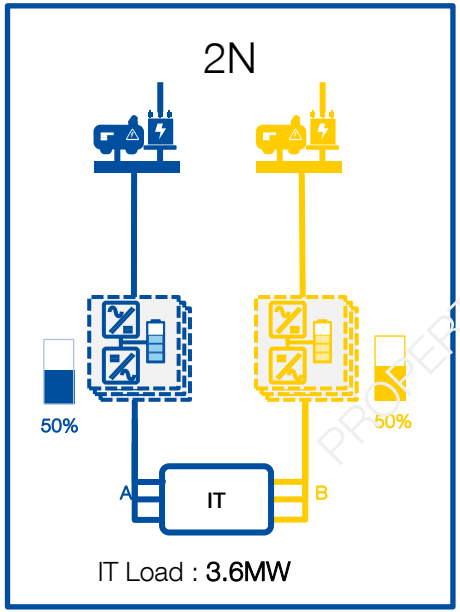


Uptime Institute 2024

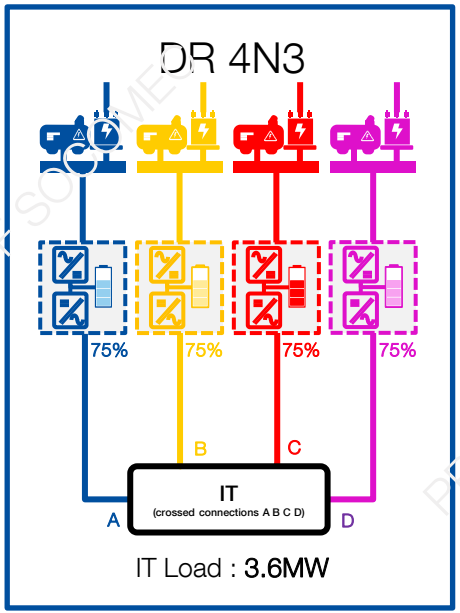
PROPERTY OF SOCOMEC

2N, distributed and block redundant architectures…

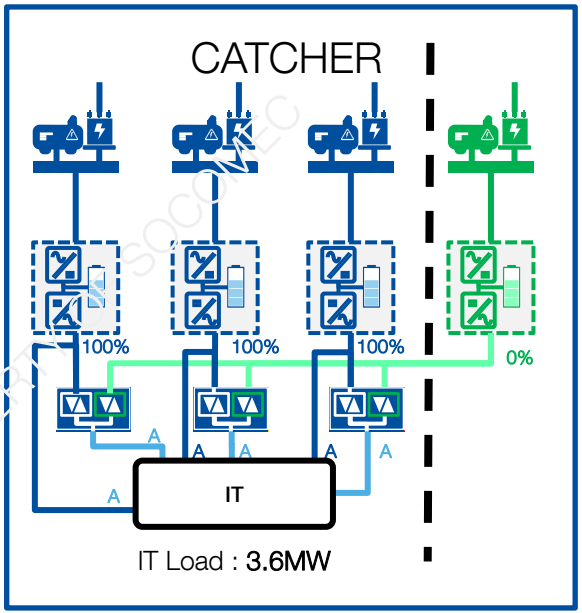
Which is the most efficient and least costly?



Rated 4 (TIA 942-C)
TIER IV (Uptime Institute)
Class 4 (EN 50600)



Rated 4 (TIA 942-C)
Under consideration for others

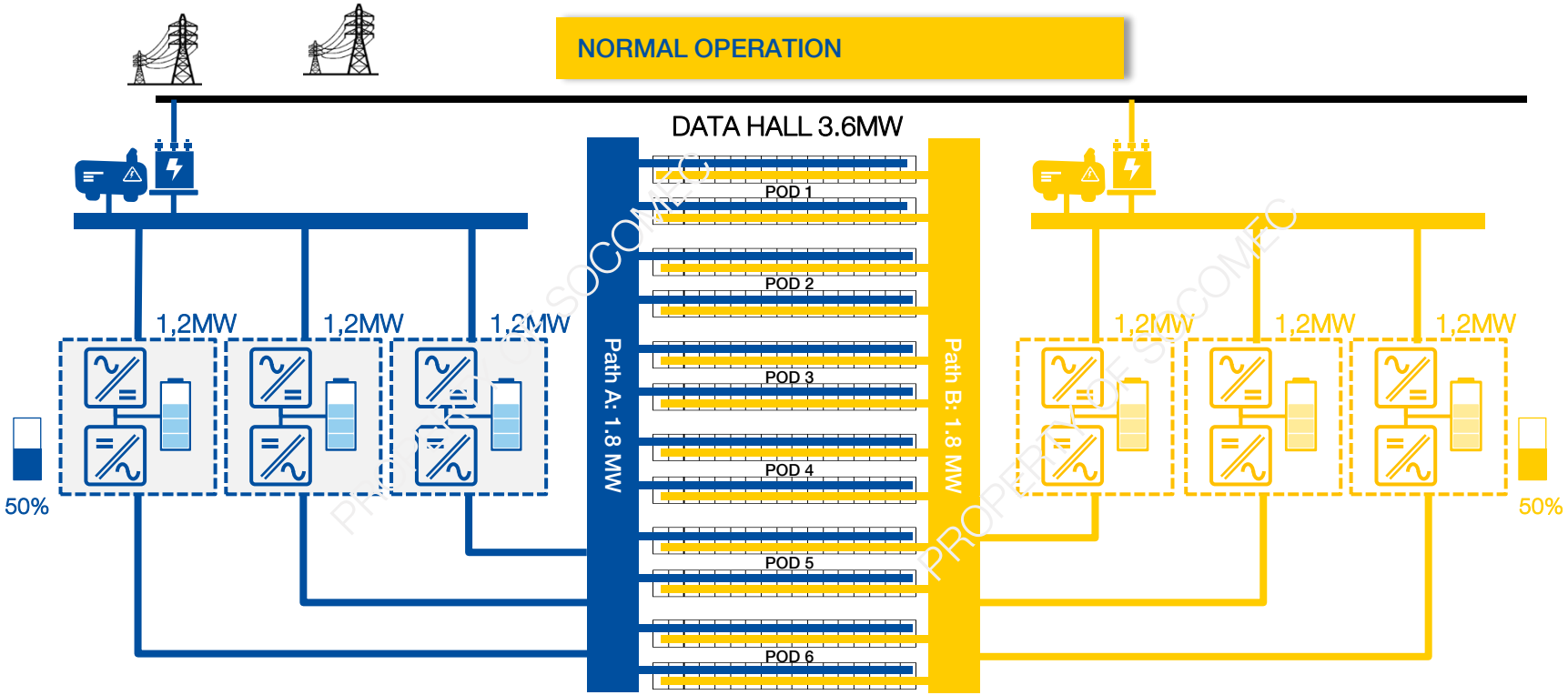


« TIER III+ »
Under consideration for others

PROPERTY OF SOCOMEC

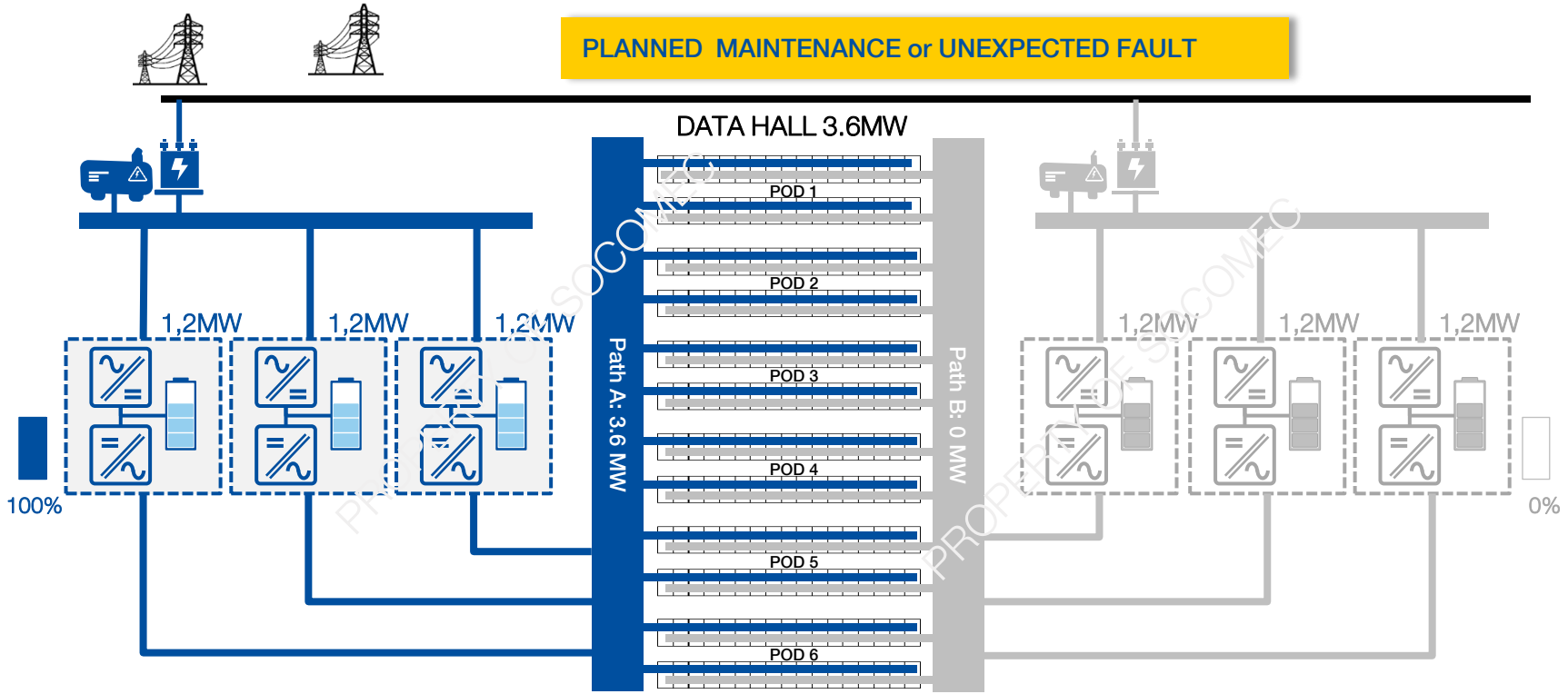
socomec
Innovative Power Solutions

2N Architecture: 3.6 MW IT load



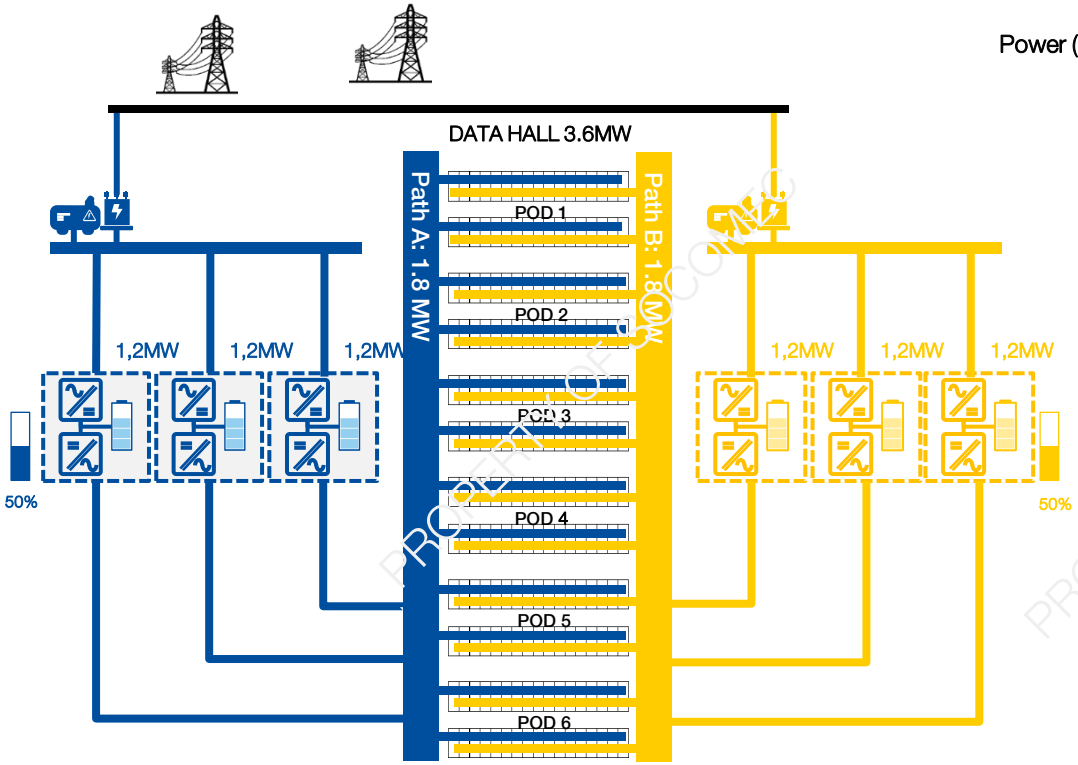
IT rack distribution per floor

2N Architecture: 3.6 MW IT load

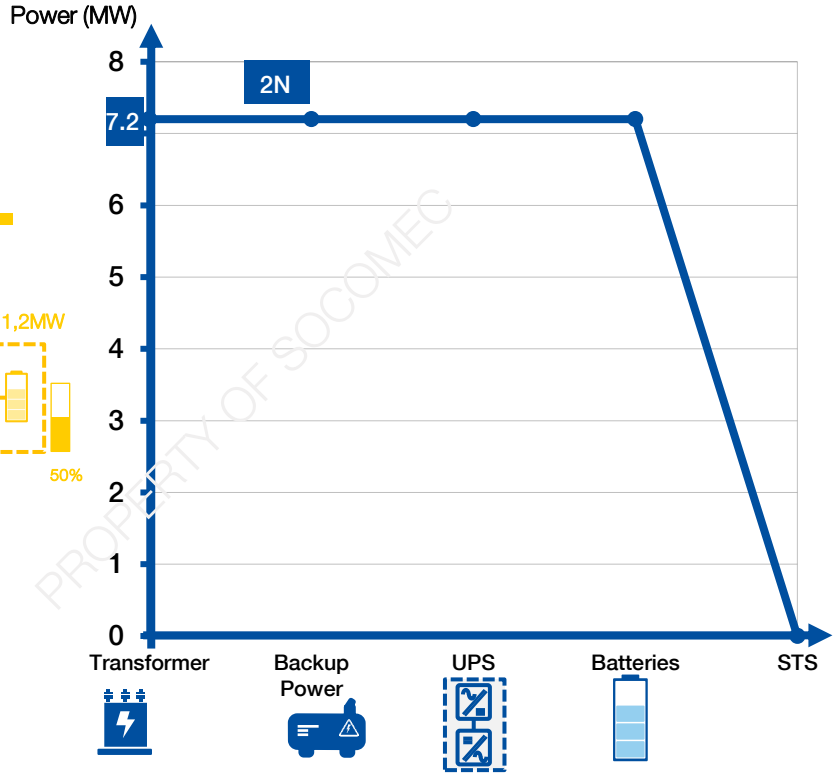


IT rack distribution per floor

2N Architecture: 3.6 MW IT load

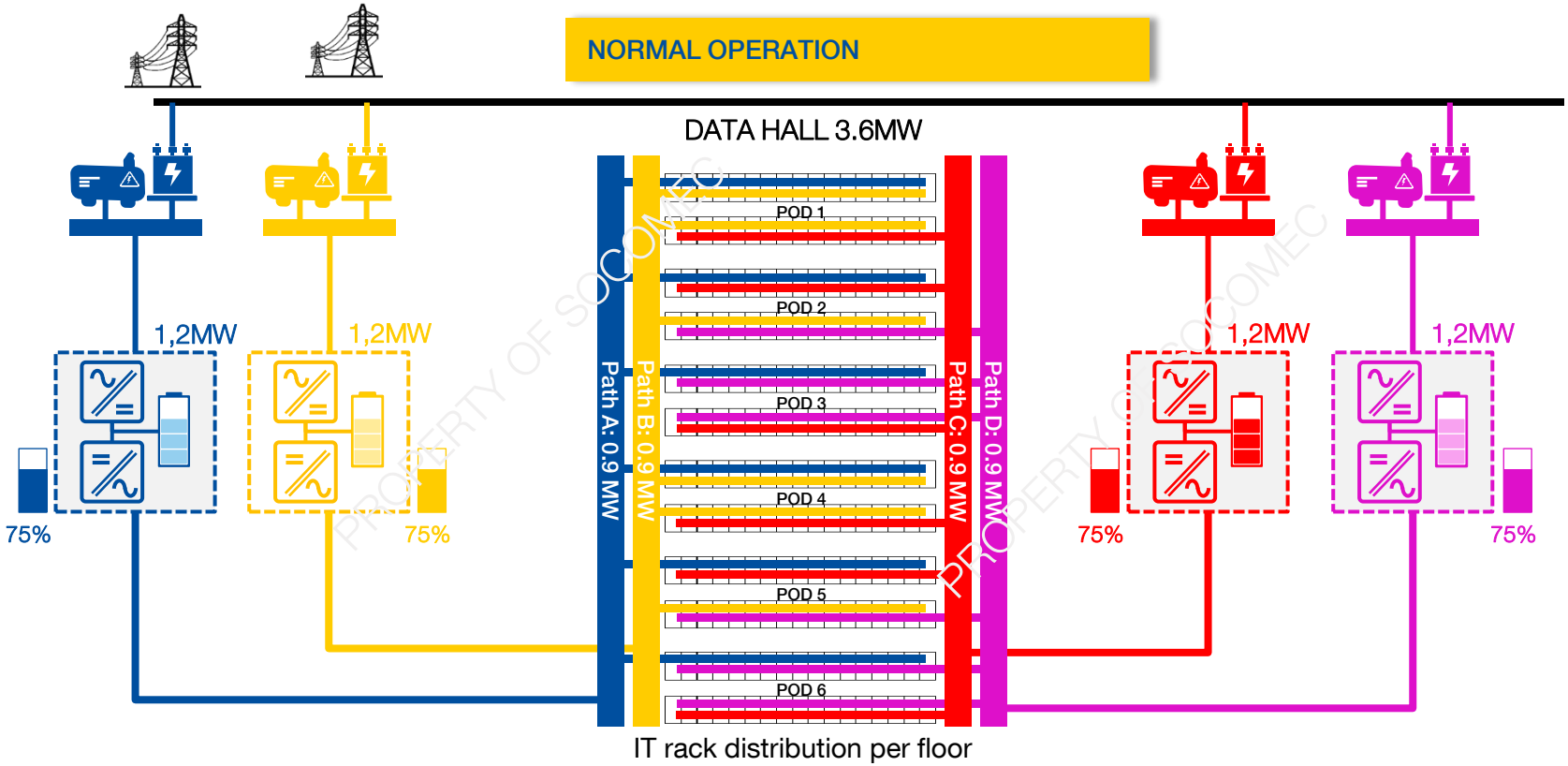


IT rack distribution per floor



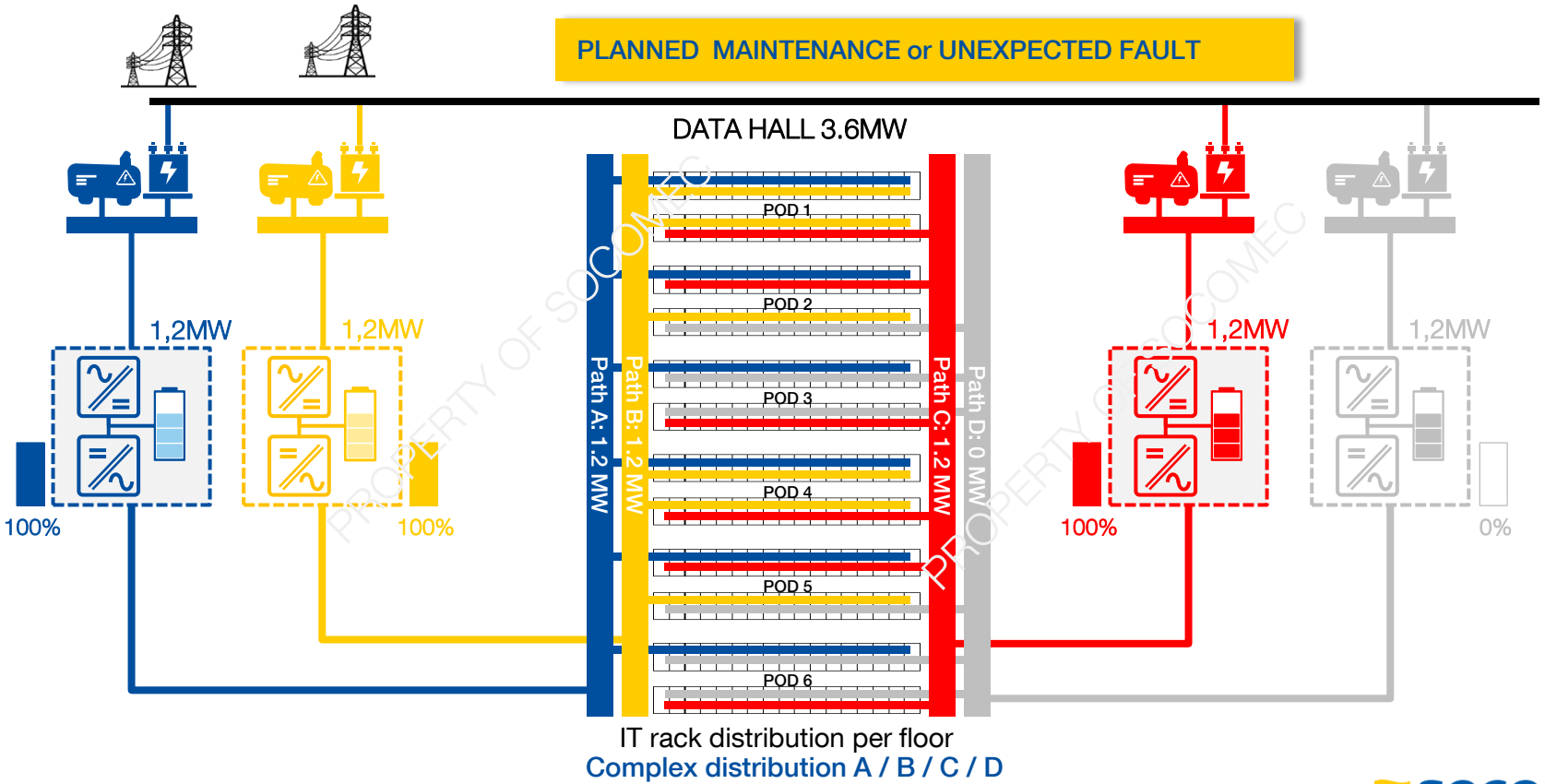
PROPERTY OF SOCOMEC

Distributed Architecture 4N3: 3.6 MW IT load



IT rack distribution per floor

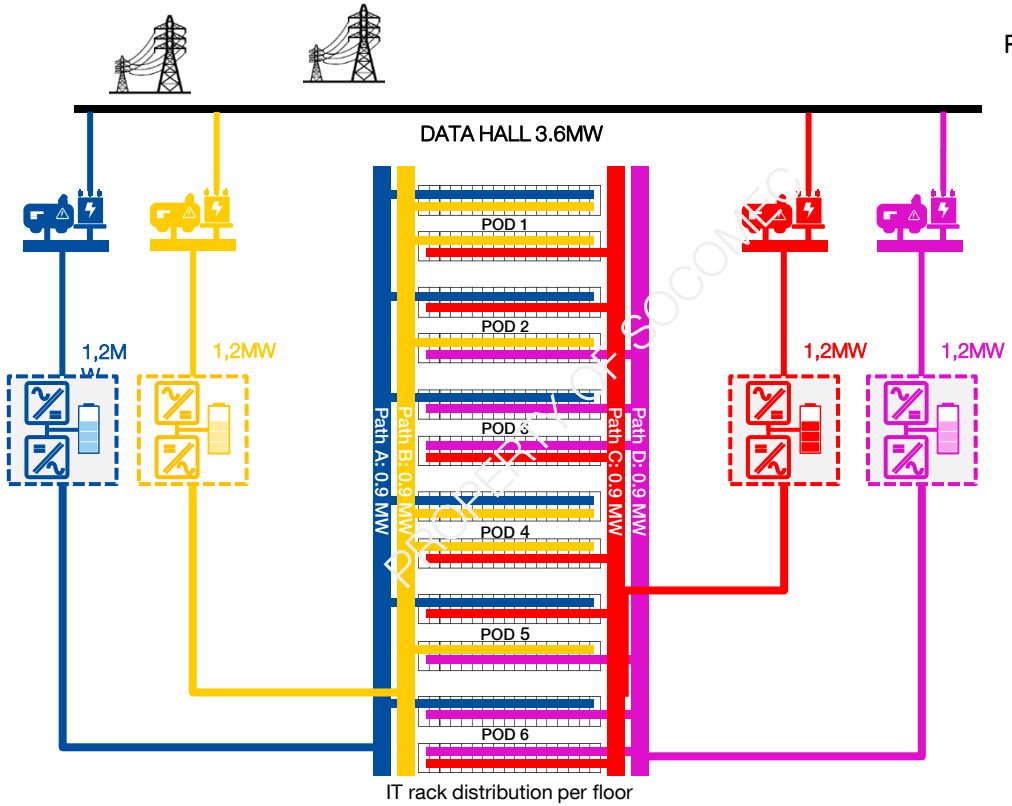
Distributed Architecture 4N3: 3.6 MW IT load



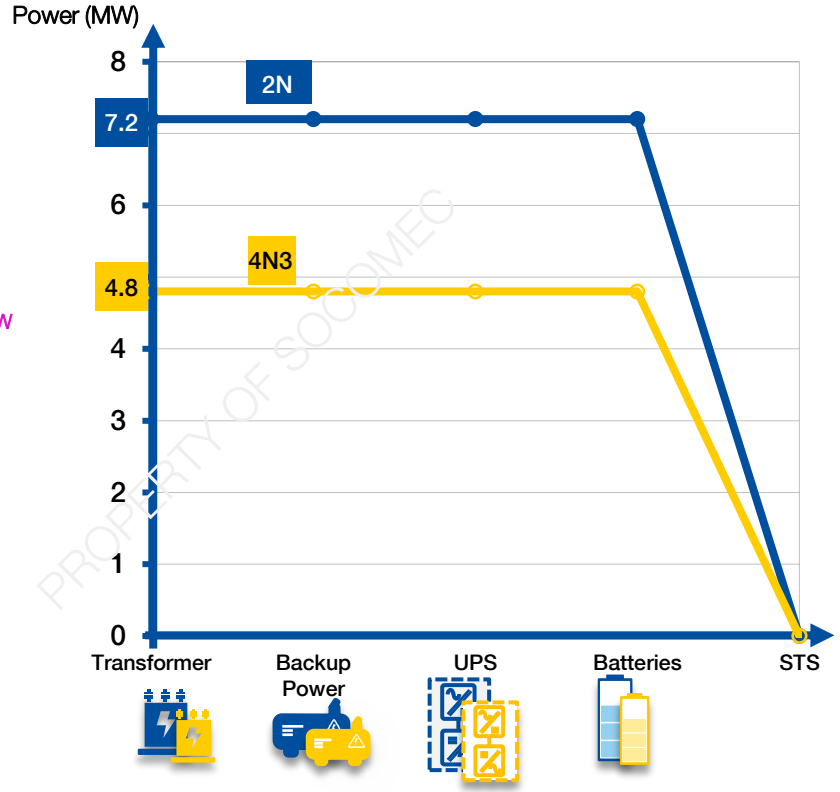
IT rack distribution per floor

Complex distribution A / B / C / D

Distributed Architecture 4N3: 3.6MW IT load



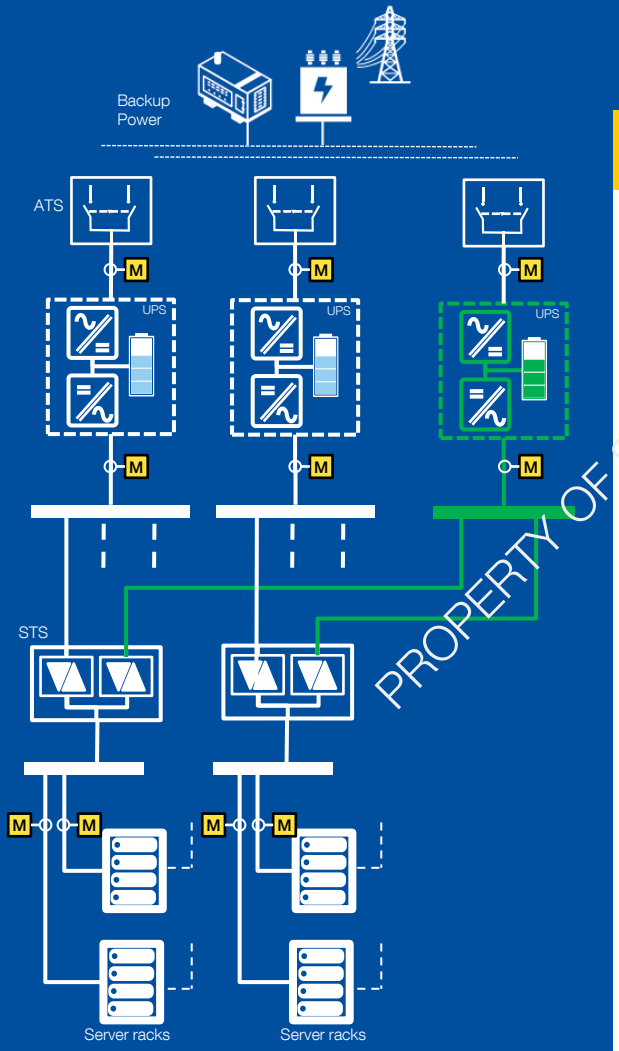
Complex distribution A / B / C / D

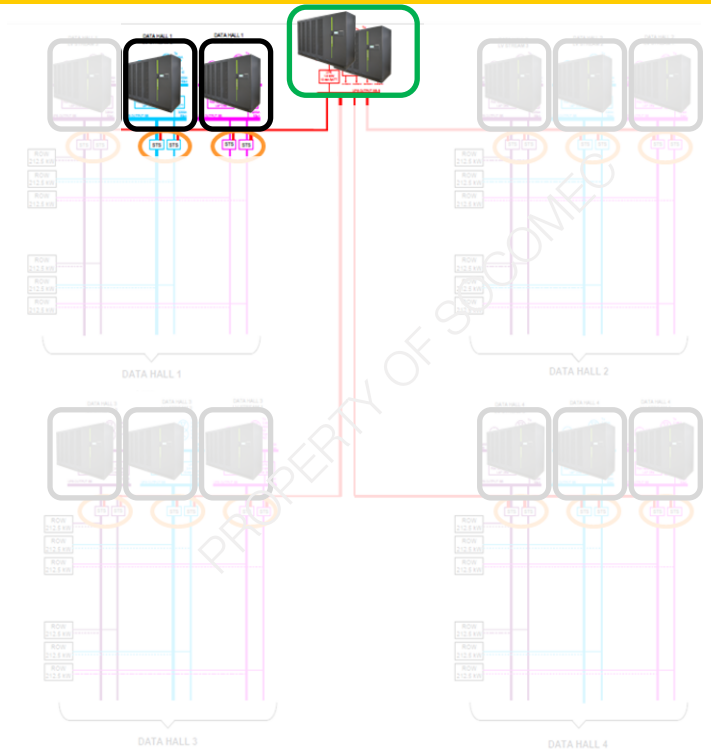


PROPERTY OF SOCOMEC

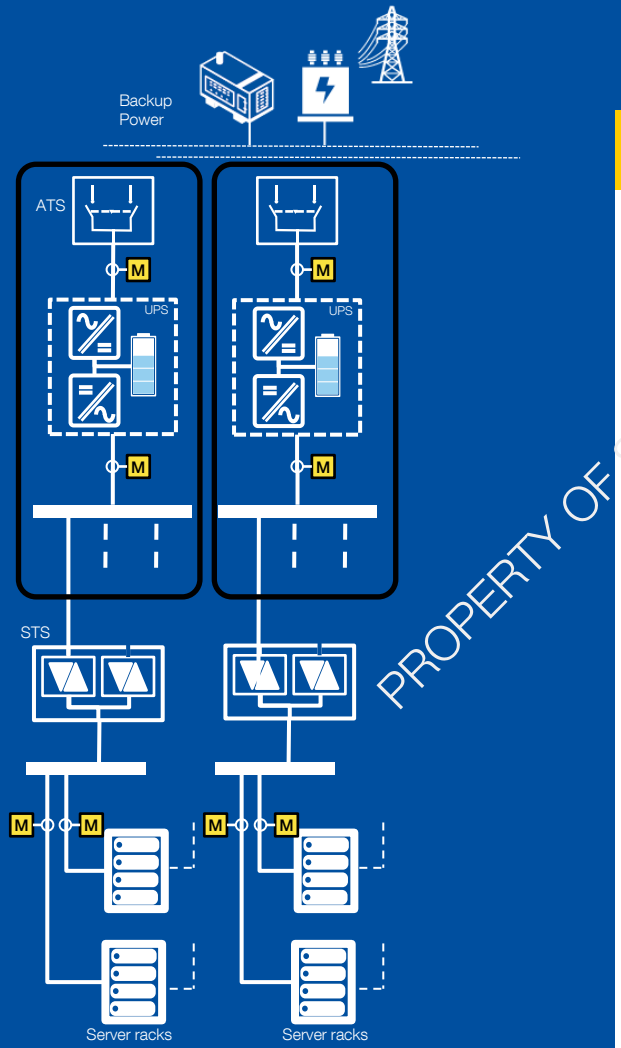
Block redundant architecture philosophy

Catcher design





PROPERTY OF SOCOMEC



Block redundant architecture philosophy

Catcher design

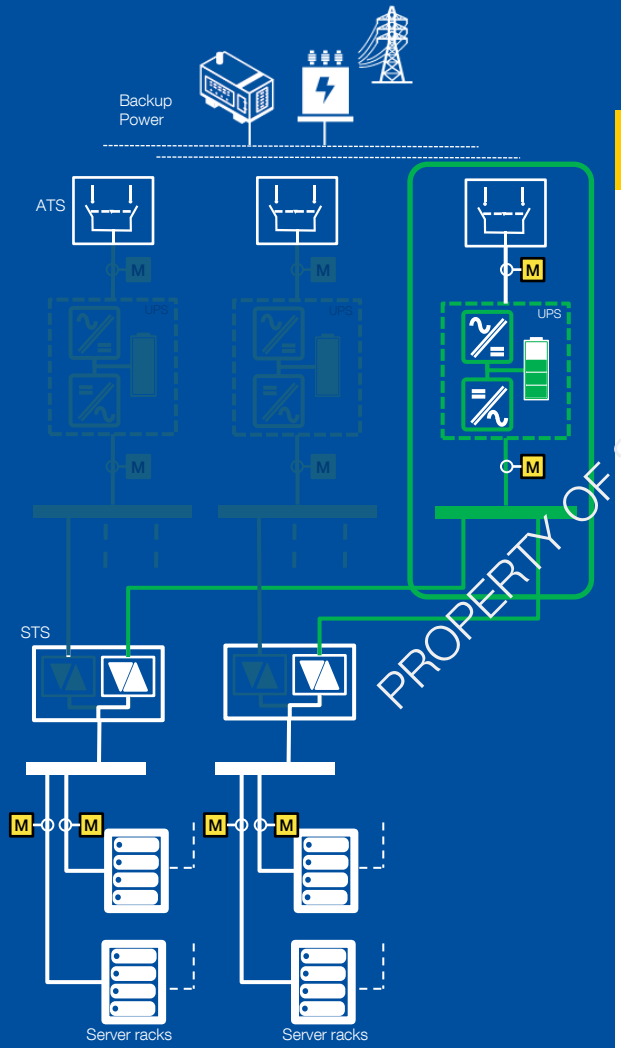
In normal operation

Loads are supplied by the *NORMAL PATH*

PROPERTY OF SOCOMEC

Block redundant architecture philosophy

Catcher design



In normal operation

Loads are supplied by the *NORMAL PATH*

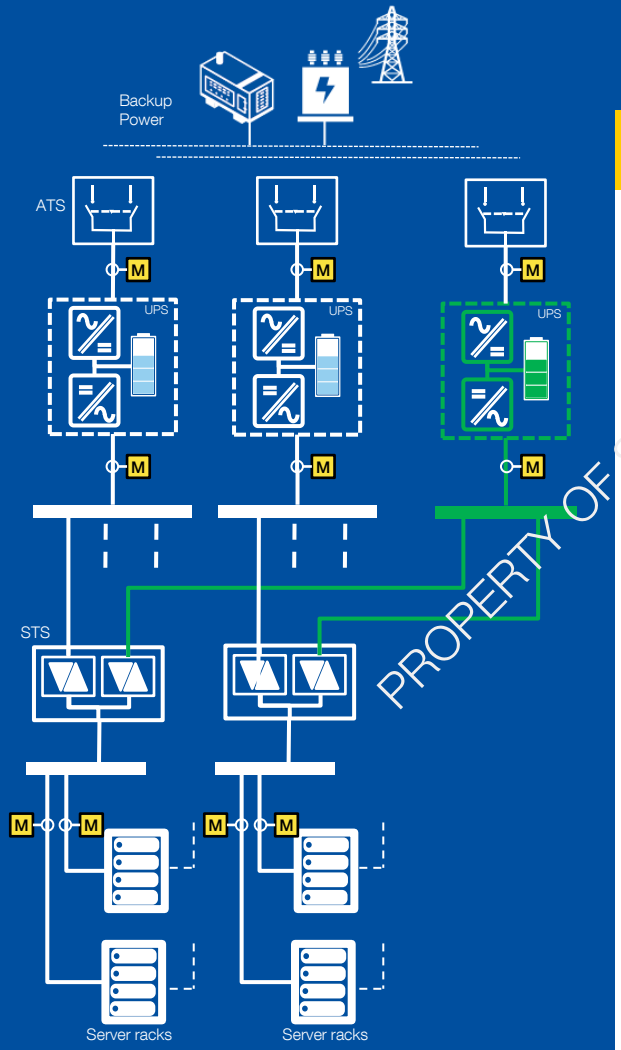
In case of any problem or maintenance needs on the Normal path

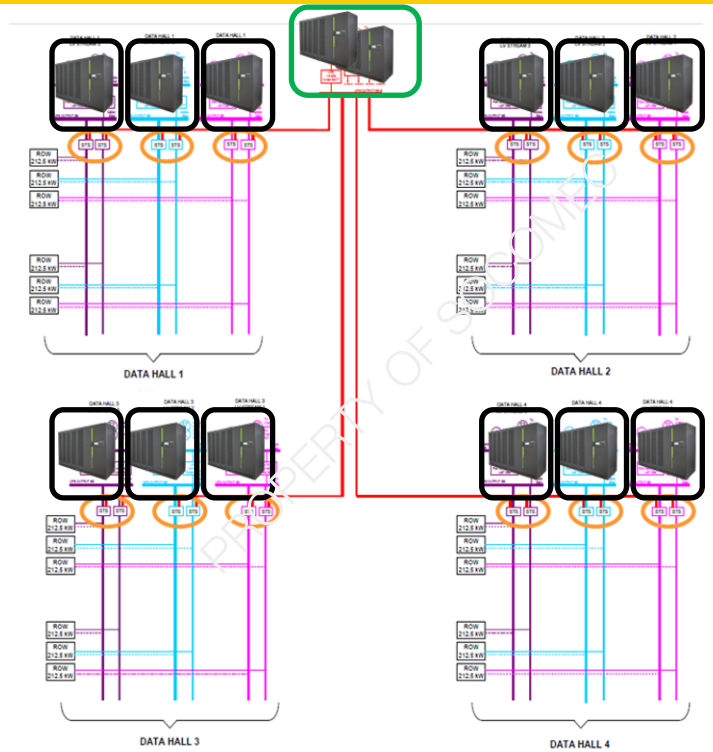
The STS will transfer the load to the *REDUNDANT PATH*

PROPERTY OF SOCOMEC

Block redundant architecture philosophy

Catcher design

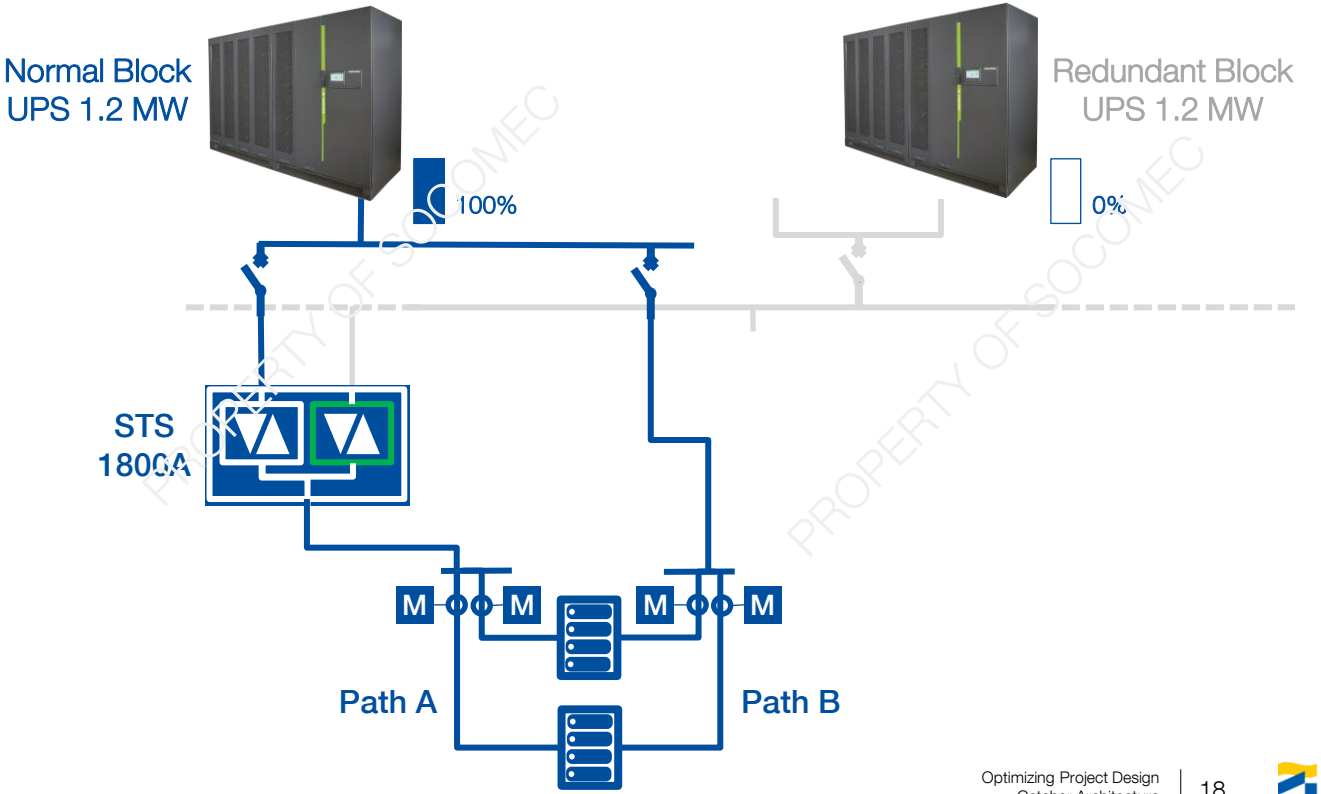




PROPERTY OF SOCOMEC

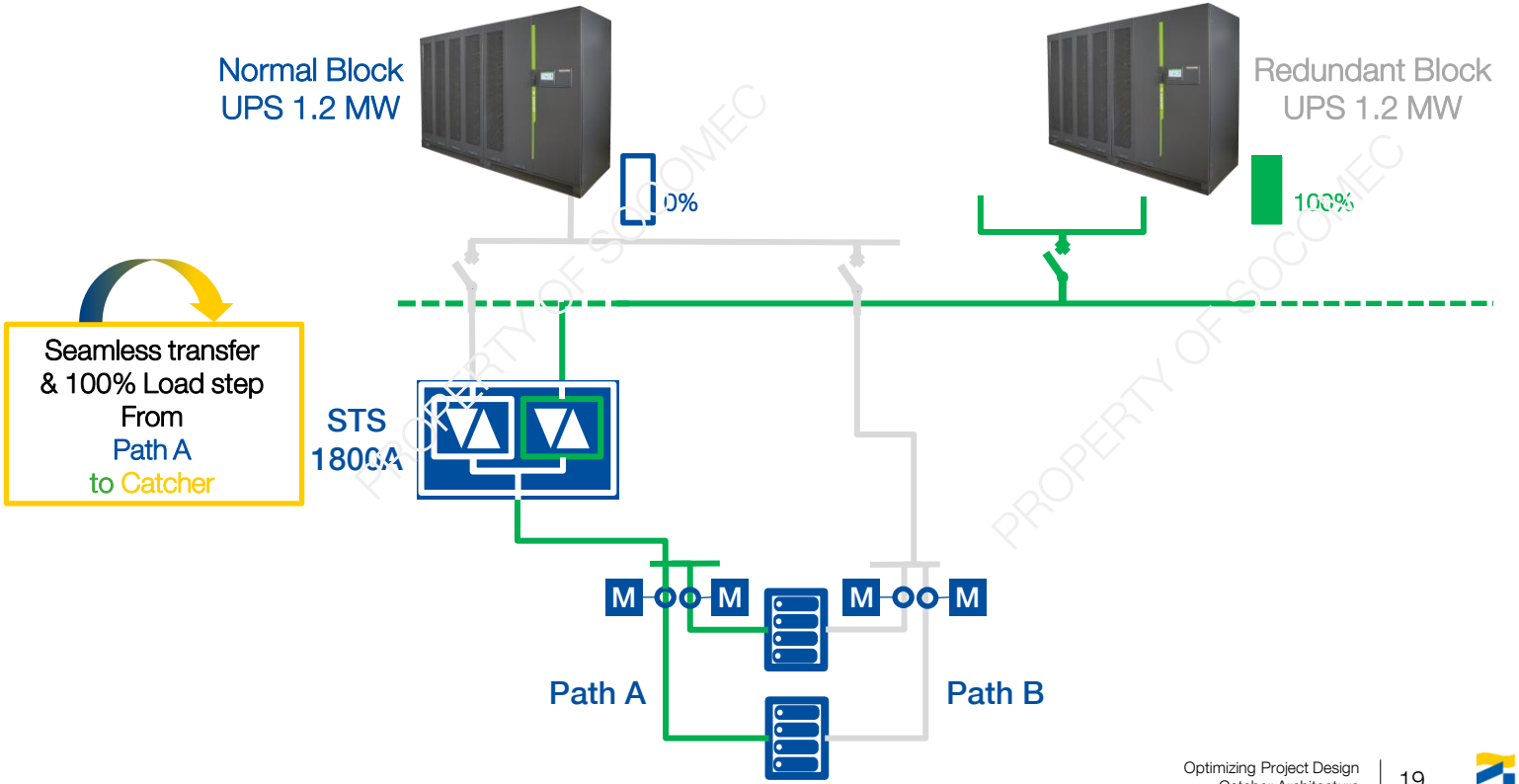
CATCHER ARCHITECTURE (Redundant block) …

… with a single STS



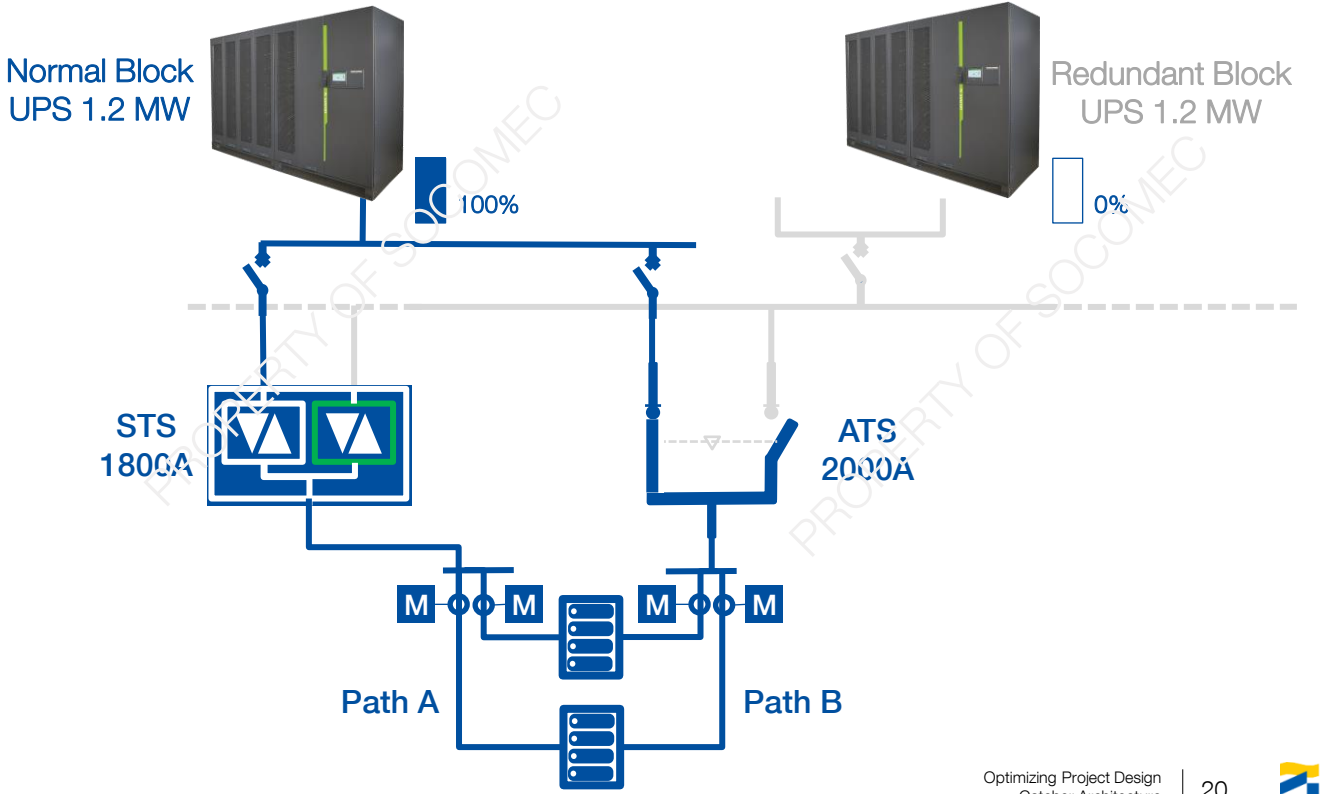
CATCHER ARCHITECTURE (Redundant block) …

… with a single STS



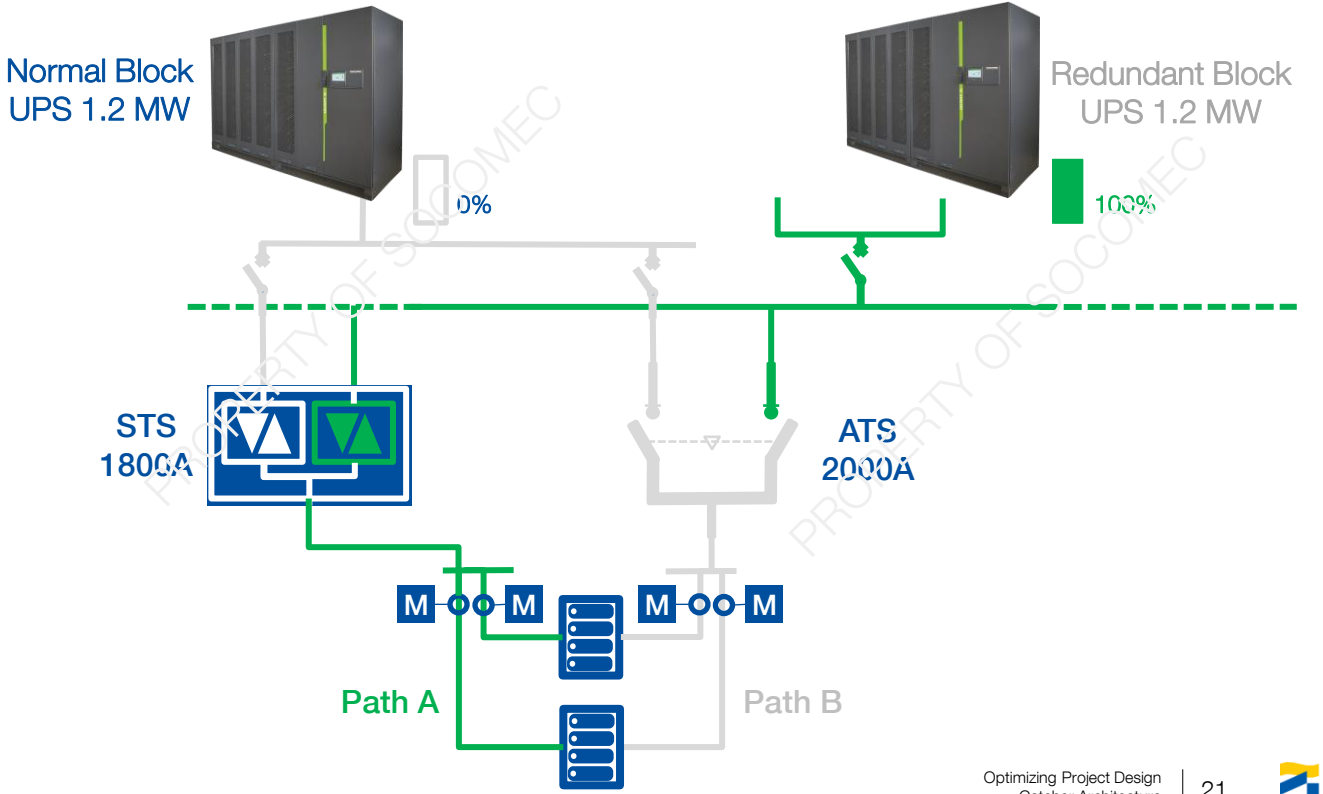
CATCHER ARCHITECTURE

… with STS and ATS combination



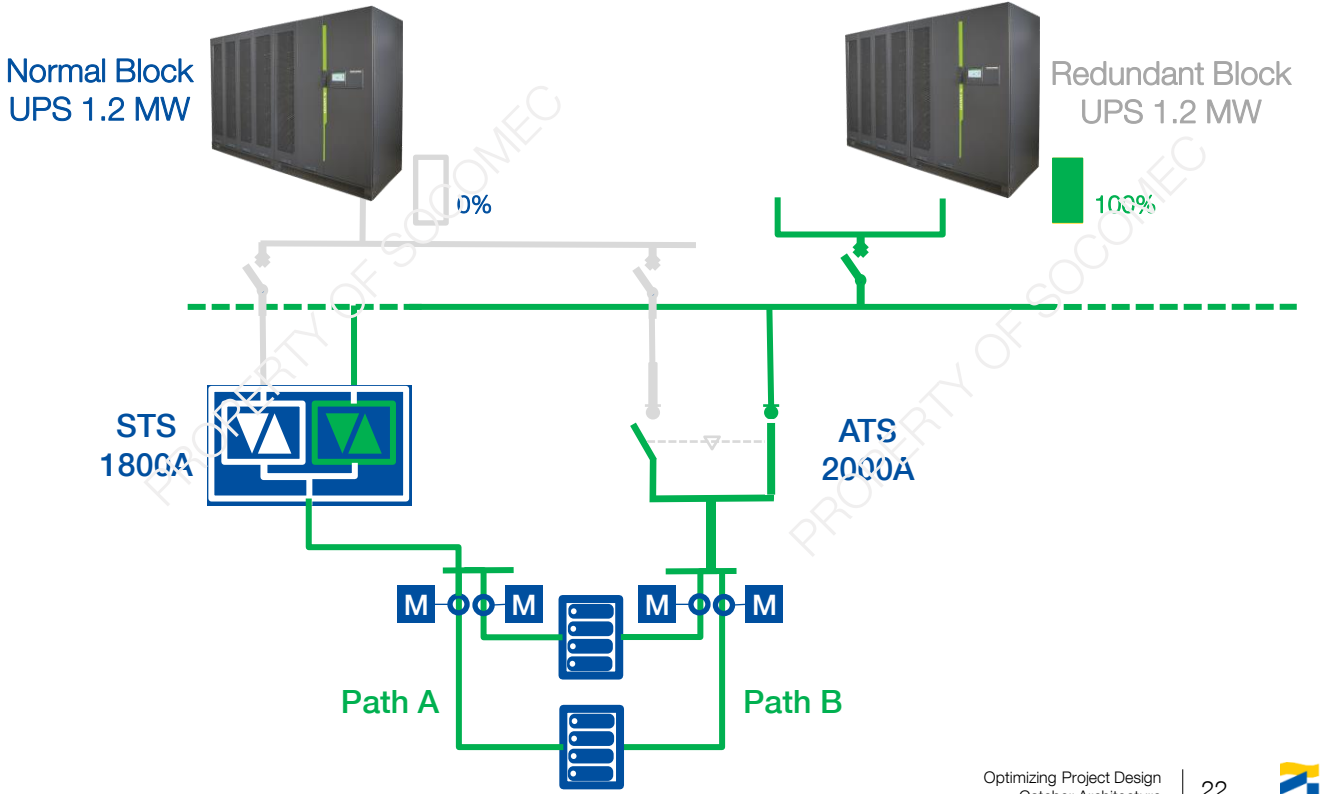
CATCHER ARCHITECTURE

… with STS and ATS combination



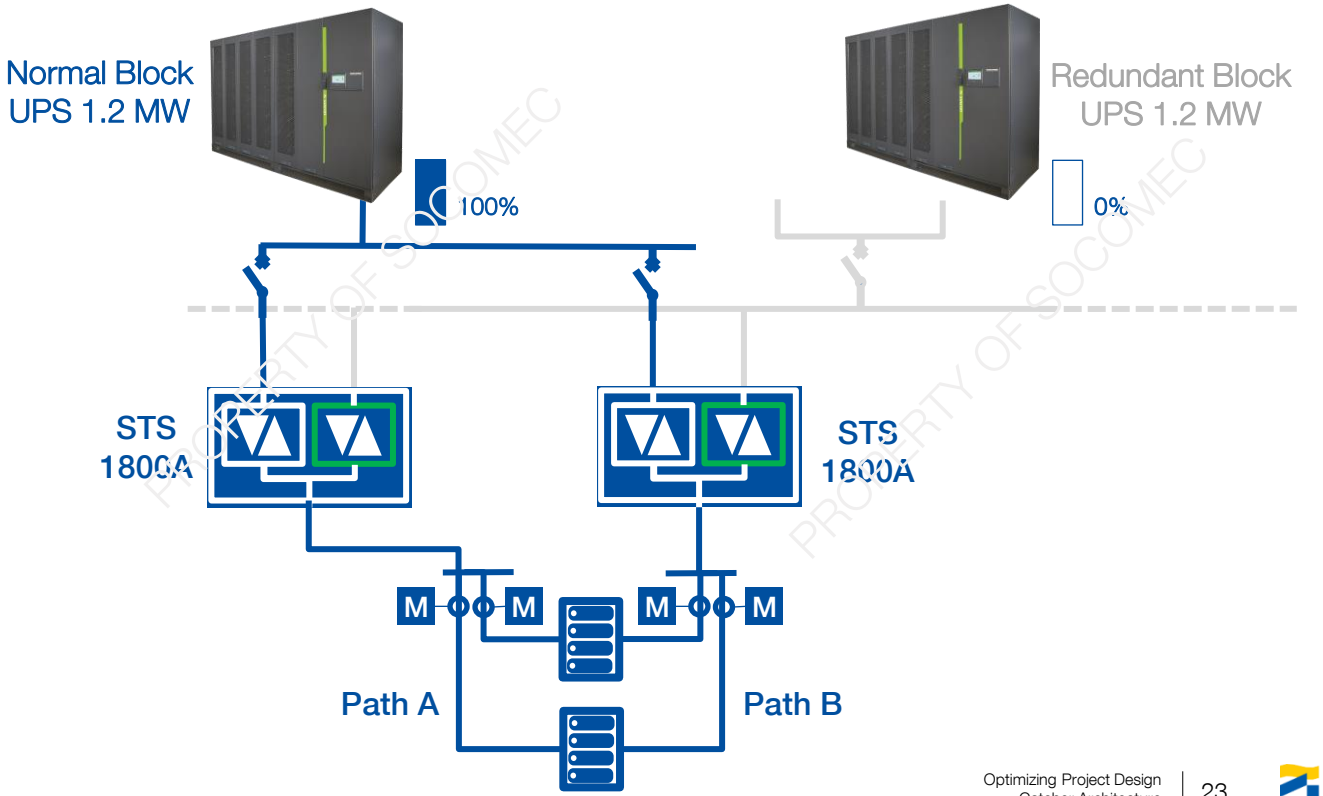
CATCHER ARCHITECTURE

… with STS and ATS combination



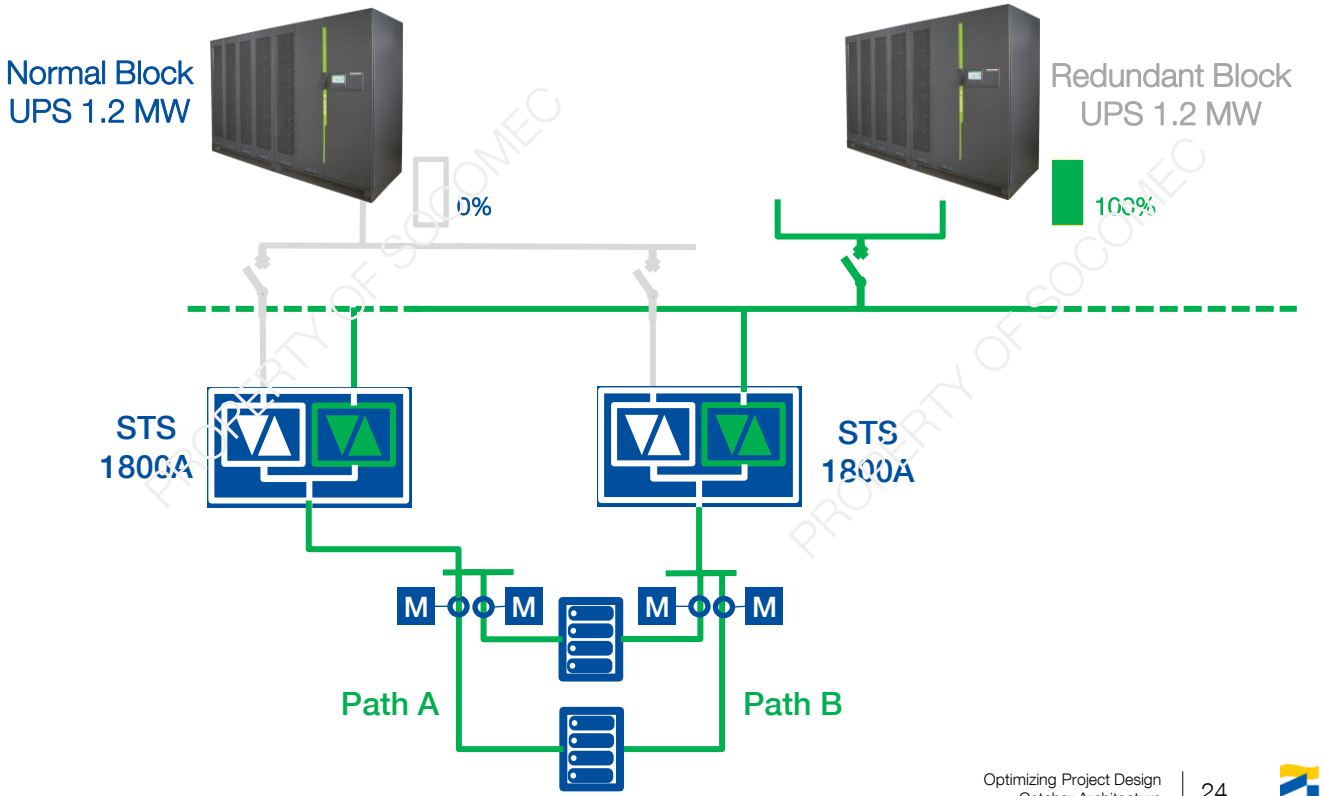
CATCHER ARCHITECTURE

… with dual STS

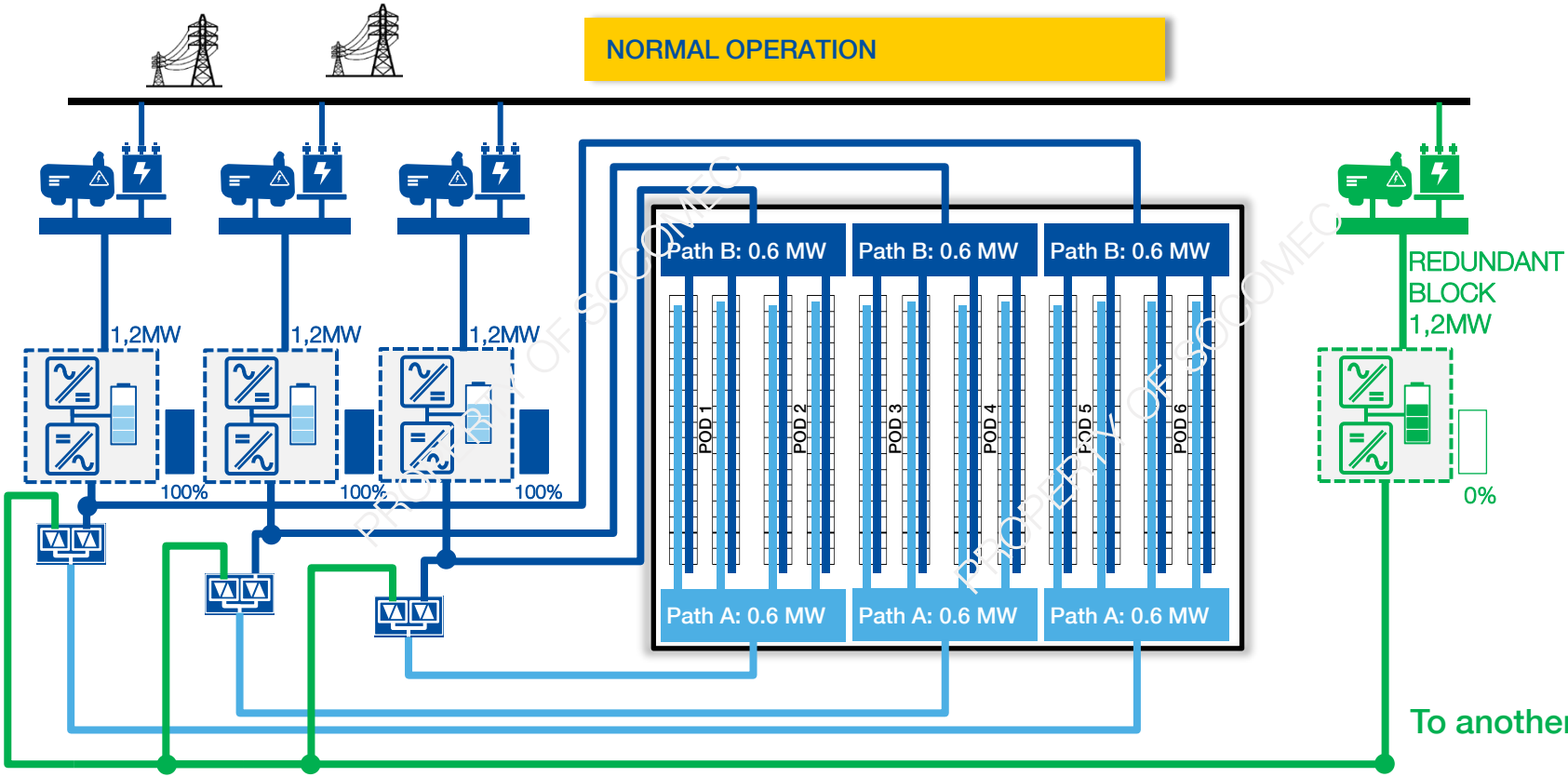


CATCHER ARCHITECTURE

… with dual STS

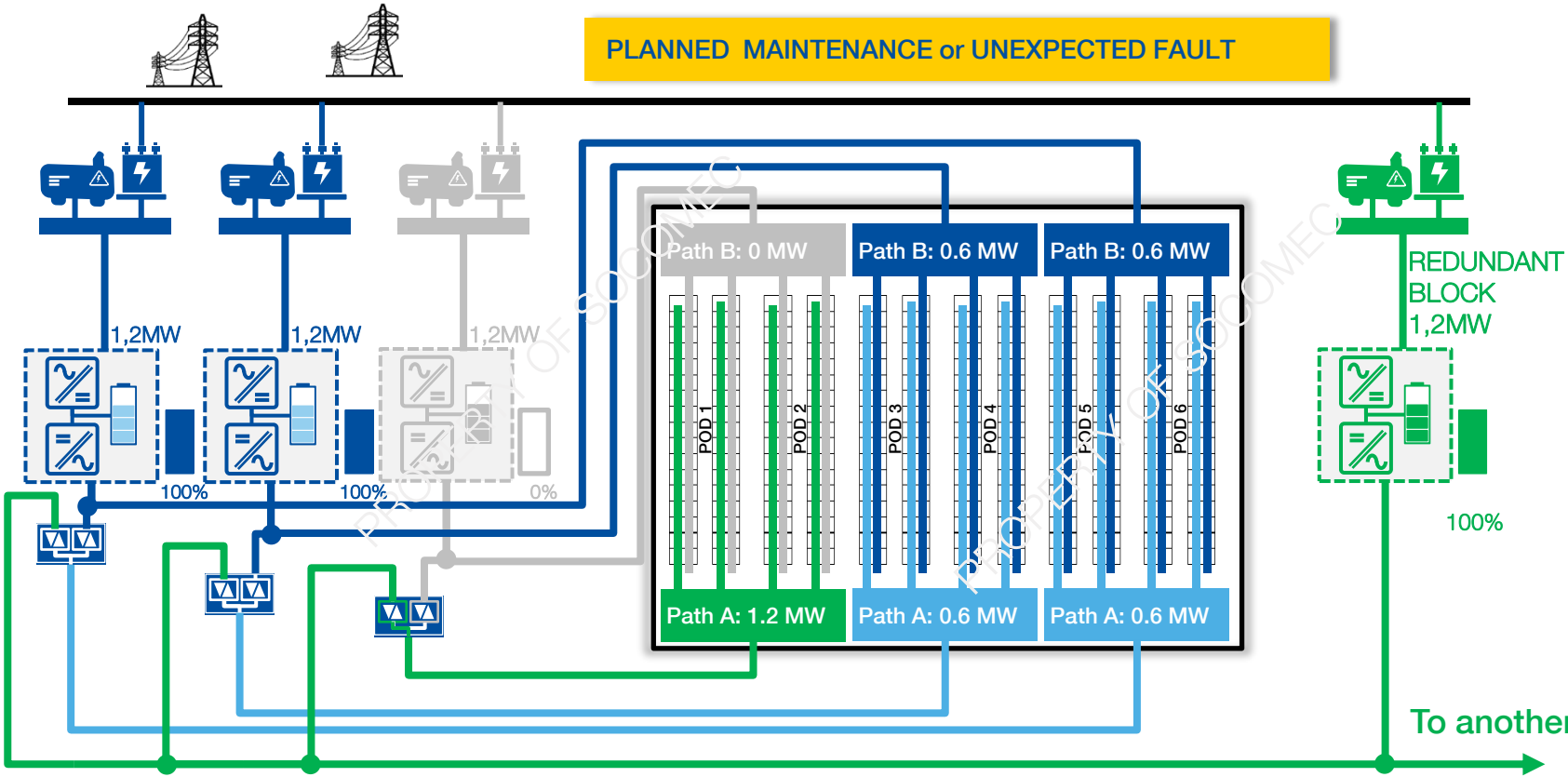


Catcher example for 1 data hall of 3.6 MW IT load



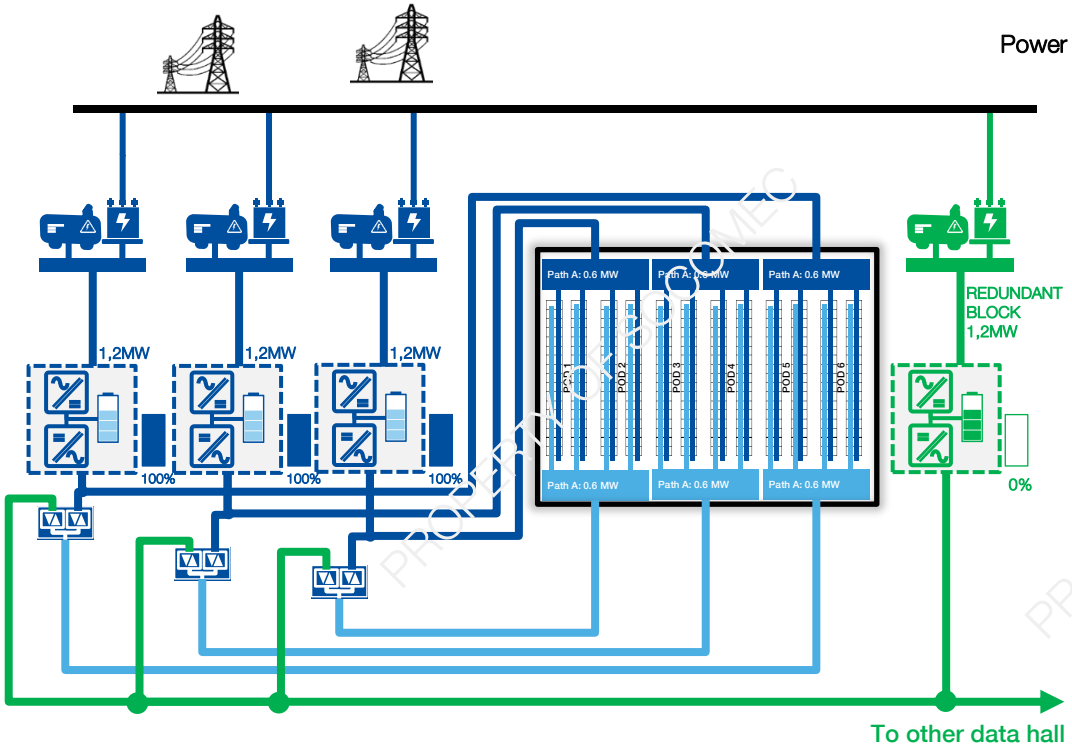
PROPERTY OF SOCOMEC

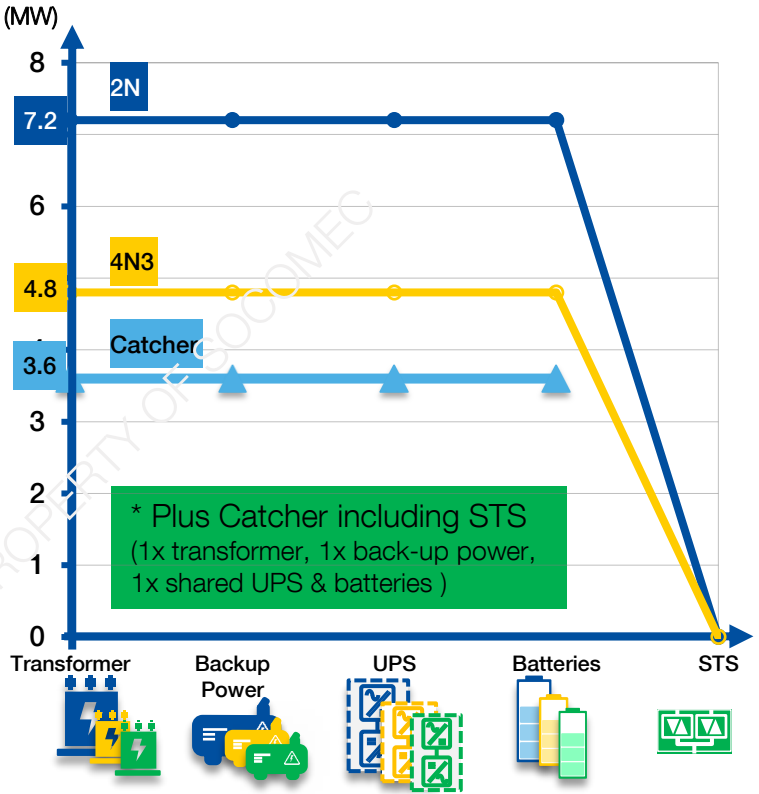
Catcher example for 1 data hall of 3.6 MW IT load



PROPERTY OF SOCOMEC

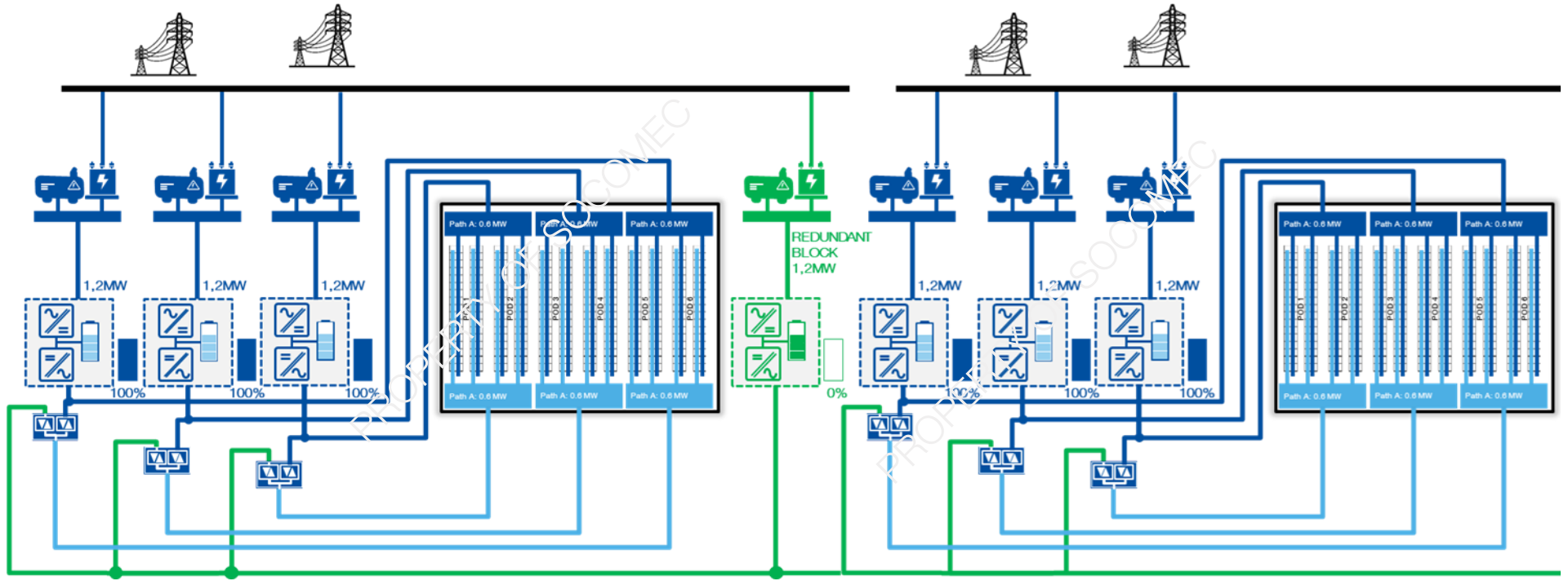
Catcher example for 1 data hall of 3.6 MW IT load





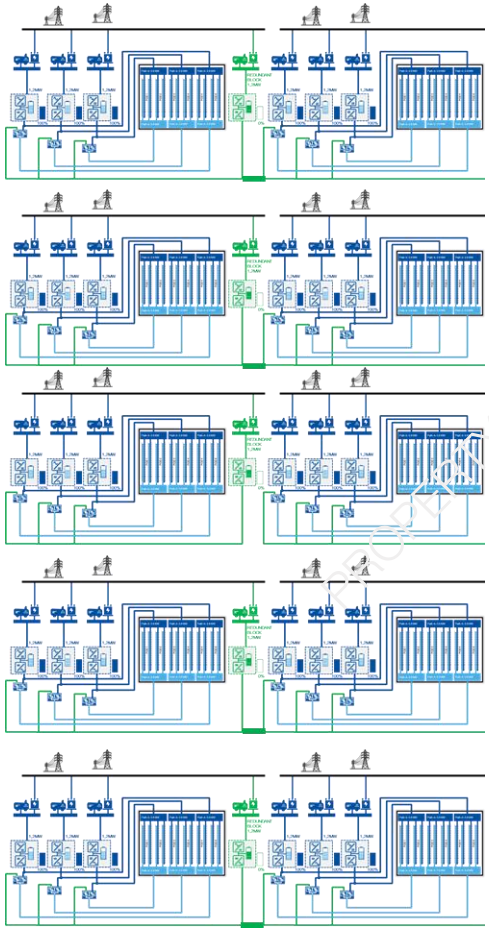
PROPERTY OF SOCOMEC

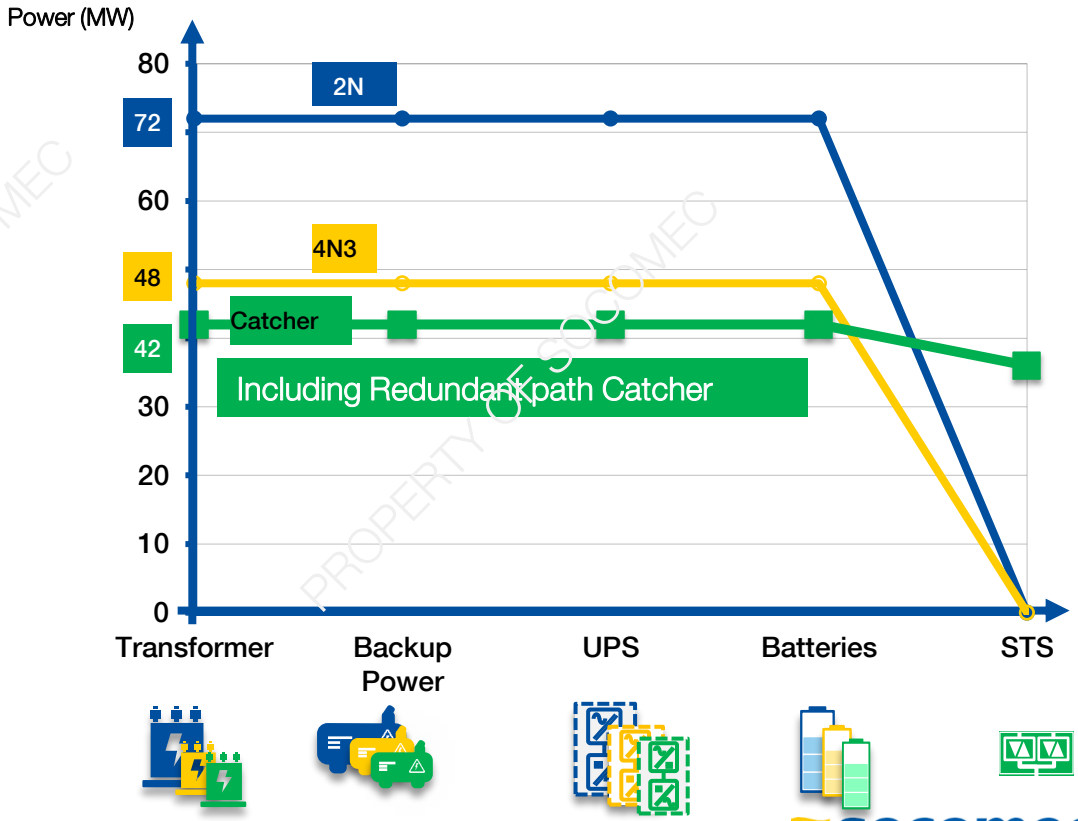
Catcher example for 10 data hall of 36 MW IT load in total



PROPERTY OF SOCOMEC

Catcher example for 10 data hall of 36 MW IT load in total

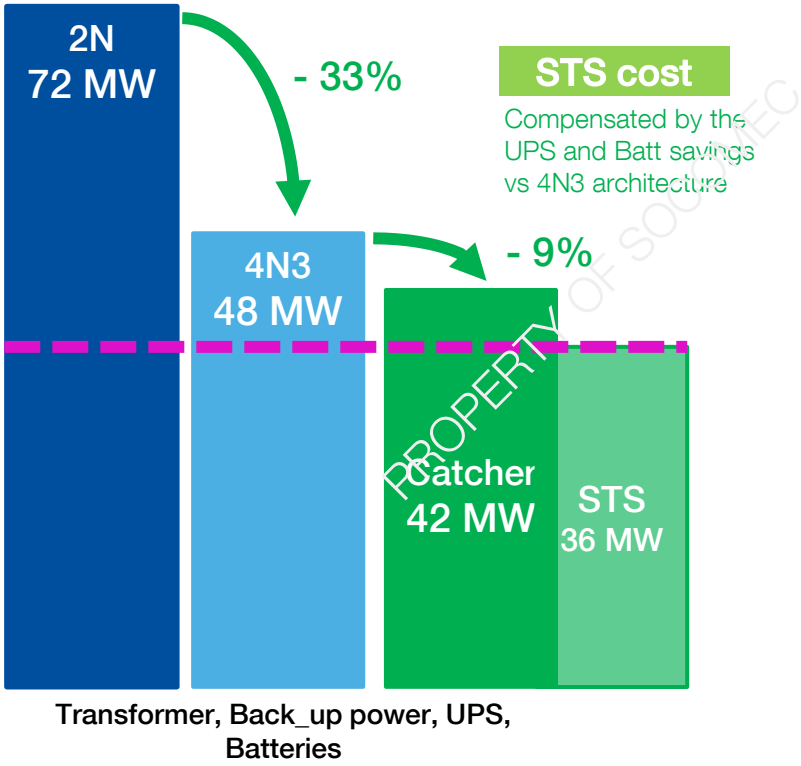




PROPERTY OF SOCOMEC

Catcher architecture VS 2N with one STS

Key take away : 10 DATAHALLS OF 3.6MW



% as shown is rounded whilst conditions apply

Catcher is up to:

- 30% LESS EQUIPMENT
- 42% LESS BATTERIES
- 38% LOWER FOOTPRINT

=

OPTIMIZED ELECTRICAL INFRA. with

BETTER TCO and a GREATER SUSTAINABILITY

PROPERTY OF SOCOMEC

thank you **so** much!

socomec
Innovative Power Solutions