24 SEPTEMBER 2026

LEADING THE DIRECT CURRENT (DC) POWER TRANSFORMATION

Introducing ABB's new Infinitus DC Portfolio for Data Centers

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ENGINEERED TO OUTRUN

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Important notices

This presentation includes forward-looking information and statements including statements concerning the outlook for our businesses.

These statements are based on current expectations, estimates and projections about the factors that may affect our future performance, including global economic conditions, and the economic conditions of the regions and industries that are major markets for ABB Ltd.

These expectations, estimates and projections are generally identifiable by statements containing words such as “expects,” “believes,” “estimates,” “targets,” “guidance”, “plans,” “outlook,” “on track,” “framework” or similar expressions.

There are numerous risks and uncertainties, many of which are beyond our control, that could cause our actual results to differ materially from the forward-looking information and statements made in this presentation and which could affect our ability to achieve any or all of our stated targets. **The important factors that could cause such differences include, among others:**

- business risks associated with the volatile global economic environment and political conditions
- costs associated with compliance activities
- market acceptance of new products and services
- changes in governmental regulations and currency exchange rates.

Although ABB Ltd believes that its expectations reflected in any such forward-looking statement are based upon reasonable assumptions, **it can give no assurance that those expectations will be achieved.**

This presentation contains alternative performance measures. Definitions of these measures and reconciliations between these measures and their US GAAP counterparts can be found in the “Supplemental Reconciliations and Definitions” section of the “Financial Information” booklet found under “Q2 2026” on our website at global.abb/group/en/investors/quarterly-results.

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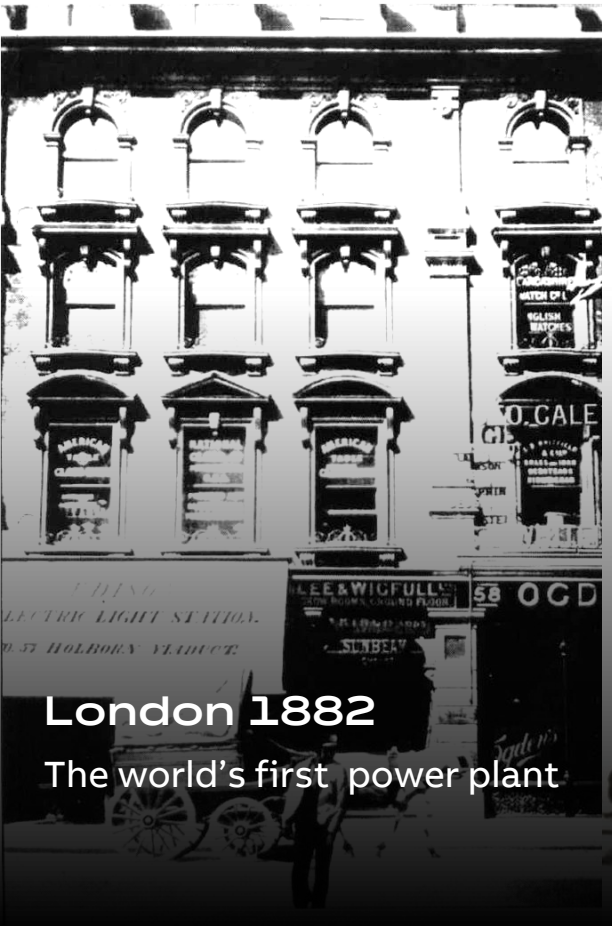
THE VERY FIRST GRIDS WERE DC



London 1882

The world's first power plant

New York 1882

The first US power plant

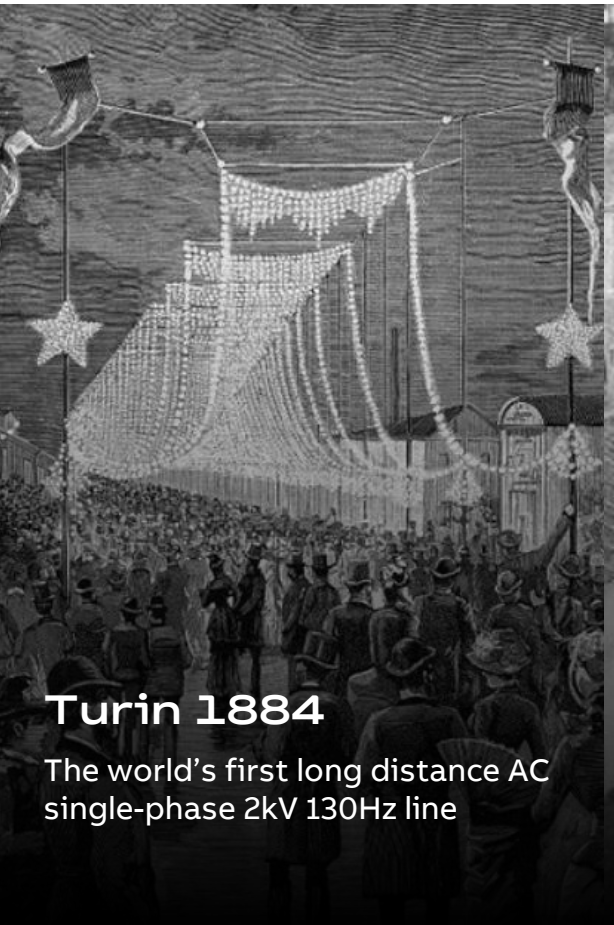
Milan 1883

The first continental European power plant

LOCAL POWER IN THE CITY CENTER

- Serve electric lighting
- Coal-fired steam engines
- 110V DC

THEN AC ARRIVED...



Turin 1884

The world's first long distance AC single-phase 2kV 130Hz line

Rome 1885

First commercial AC distribution system 2kV 120Hz line

Niagara Falls 1895

11kV AC overhead transmission to Buffalo City

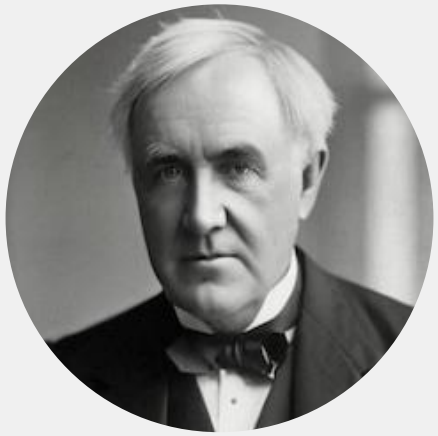
THE TRANSFORMER WAS THE TURNING POINT

- Cost efficient generators
- Long-distance efficient transmission

The war of the currents 1886–1893

2 competing systems

Direct Current

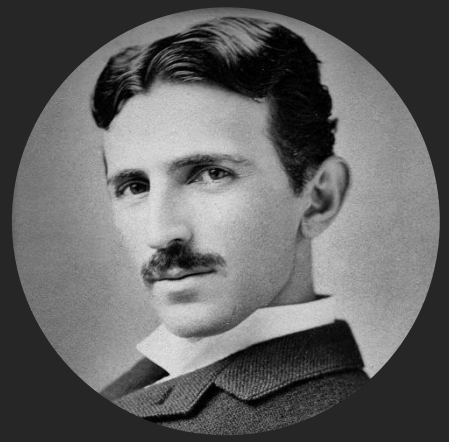


Thomas Edison

Short-distance transmission

More local power stations

Alternate Current



Nikola Tesla & George Westinghouse

Long-distance transmission

Fewer, larger power stations with transformers stepping voltage up and down

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AC

- Changes direction
- Sine wave
- Home & industries

DC

- One direction
- Steady flow
- Batteries & devices

AC ADVANTAGES

Efficient Transmission
AC can be easily transformed to higher/ lower voltages using transformers, minimizing energy loss during long-distance transmission

Lower Maintenance Costs
AC systems, particularly AC motors, are typically simpler with less maintenance vs. DC counterparts

Versatility
Powers a wide range of household appliances and industrial equipment - the standard for residential and commercial power supply

Safety
Can be interrupted more easily with circuit breakers, as current naturally goes to zero during each cycle, reducing risk of electrical fires

DC ADVANTAGES

Stable voltage
DC provides a constant voltage, making it ideal for electronic devices and circuits that require stable power

Simplicity in electronics
Most electronic devices, e.g. batteries, solar panels and computers run on DC. Essential for modern technology

Less energy loss
Transmission can be more efficient over short distances and is less affected by inductance and capacitance issues

Simplicity and efficiency in electrical infrastructure
Less cabling required and fewer AC/DC conversion reduces energy loss

HVDC systems have lower resistive losses
More efficient for transporting electricity across long spans

WHY DC NOW?

SURGE IN DC DEMAND & SUPPLY

25x
power density in Data Centers
by 2030

3x renewable energy
by 2035

8x installed capacity of BESS
by 2035

Source: IEA World Energy Outlook 2025 Current Policies Scenario, Goldman Sachs, McKinsey

ABB's DC leadership backed by scale

700+
ABB DC Patents

25+ Years
ABB DC Leadership

1 in 4
Data Centers have ABB Electrification technology

1M+ sq ft
New manufacturing capacity added by ABB Electrification in 2026 to meet growing demand

First certified Solid State DC Breaker

Leader in Marine DC technology

First DC Data Center 2012

Direct Current distribution across industries

Source: Bernstein, Grand view research, EL B&CI analysis

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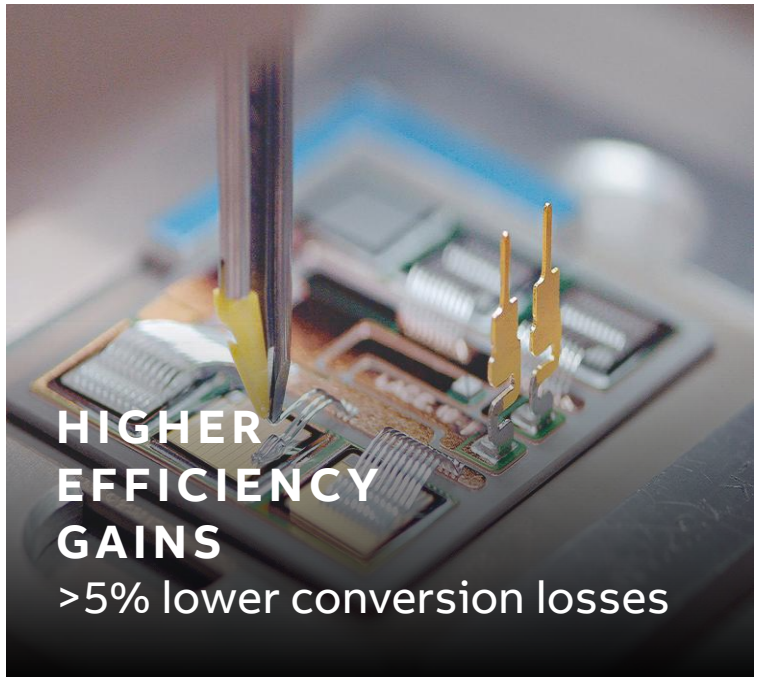
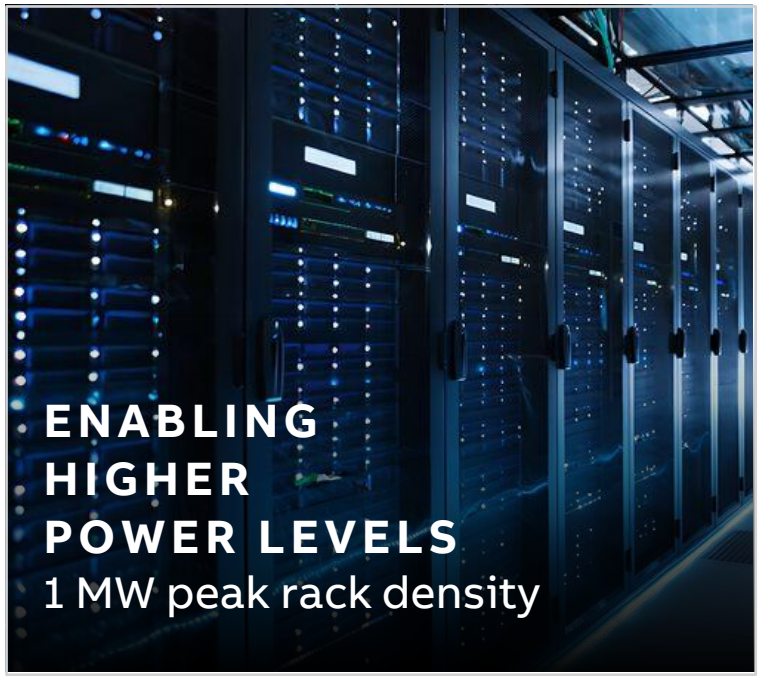
DC technology is at a turning point

Supporting Data Center market expansion





~219 GWh energy reduction
for a 500 MW AI Data Center, equal to the energy use of 59,000 EU households

>10,000 ton
Copper reduction for a 500 MW AI data center moving to 800V DC Architecture

Optimized Token/MW
Higher rack density and lower losses deliver more performance from every MW

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Future Data Centers at ~3X POWER DEMAND

Enabled by Direct Current technology

2025

84 GW
data center capacity

= x 30

40 kW
average rack density in current architectures

x 4

200 MW
facility considered normal today

2030

~250 GW
data center capacity

= x 1,000

1 MW
AI GPU peak rack density in 2030

x 1
US nuclear plant

Up to 1.5 GW
AI factories normal in 2030

Source: McKinsey, Bank of America, Morgan Stanley, Jefferies, J.P. Morgan

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From Simple Server Rooms to AI Factories

Why DC for Data Centers

THE AI ERA

- **New GPUs require new power architectures** to scale up performance and satisfy the demand for hyper-density infrastructure
- Generative AI workloads push racks up to 200 kW already in 2026**, future systems trending above 1 MW by 2030**
- 48-54 VDC rack power distribution and 415/480 VAC supply designs reach practical limits beyond ~400 kW/rack
- **Buildings go from 10's to 100's of MW and above** reaching gigawatt campus sizing
- Power conversion and distribution from grid to chip **needs a revolution** and becomes a critical bottleneck

3 SHIFTS REQUIRED TO GO BEYOND THE LIMITS OF LEGACY RACK POWER SYSTEMS:

01 Space constraints: Move AC-to-DC conversion out of the IT rack

02 Deliver power at a higher DC voltage (from 48-54 to 800 VDC), reducing associated current

03 Power conversion efficiency

Focused development of customer offering in DC Power Solutions Incubator

Defines end-to-end DC Data Center architecture and ABB's integrated offering

- **Strategic cross-business collaboration**
- **Customer solutions focus with system approach**
- **Enables speed & agility to serve dynamic market at varied readiness levels & requirements**

2010 — **PHASE 0**

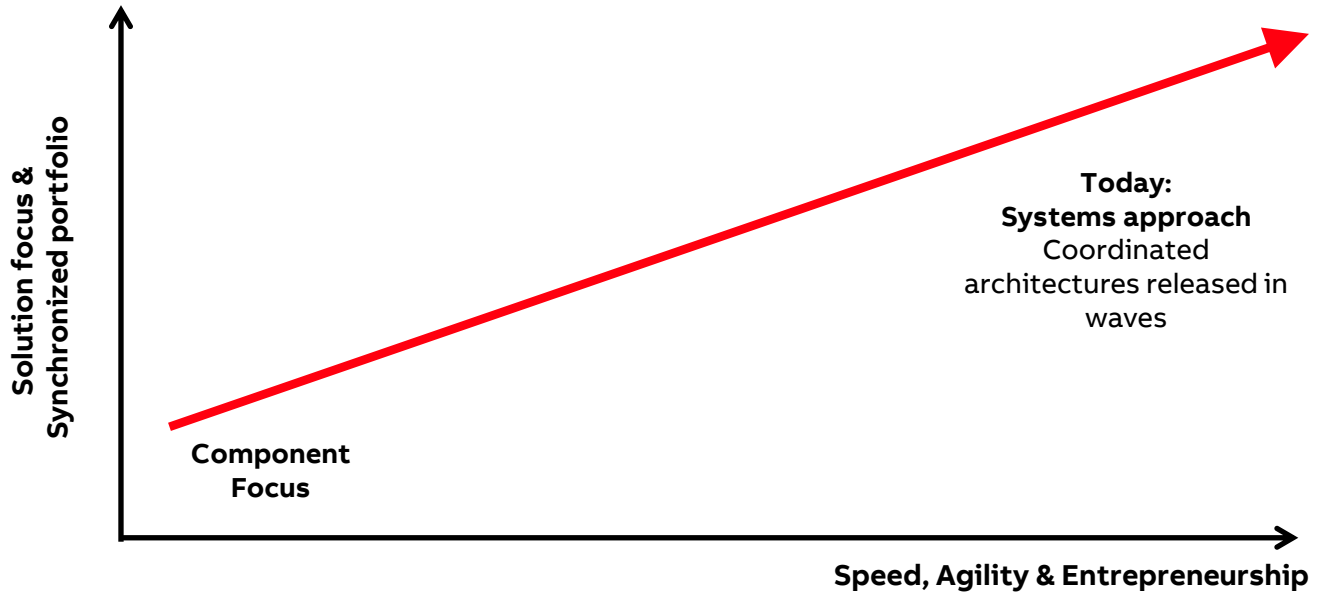
Basic SST R&D across segments (e.g., traction)

2023 — **PHASE 1**

Electrification SST current design development, becoming "go-to" partner of major players

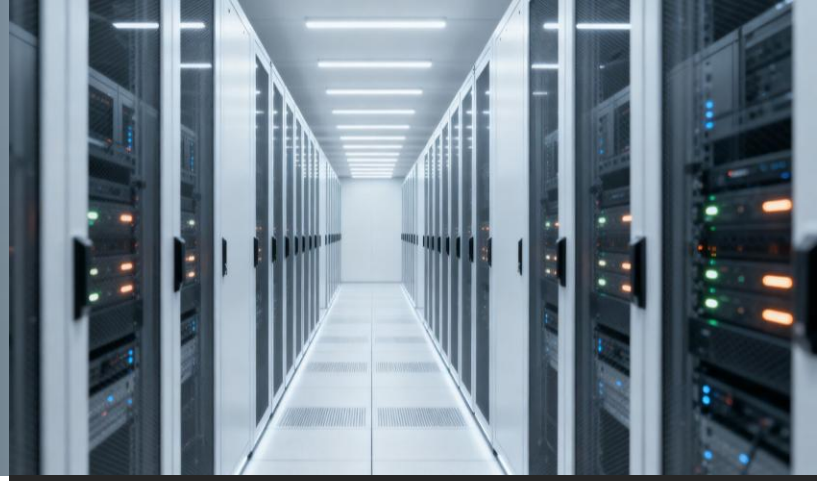
2028 – 2030+ — **PHASE 2**

Scale up business



Power infrastructure CapEx spend shifting to GREY SPACE

Advantage to ABB Data Center offerings centered around grey space



CURRENT
Data Center architecture

White space
~45%
of CapEx

Grey space
~55%
of CapEx

Content reduction
- AC PDUs, rack PDU/PSU
- AC distribution, busways
- LV SWGR, transformers
- …

Content increase
- MV UPS or DC UPS
- SST
- LV DC distribution, busways
- DC CBs & SSCBs
- Grid stability
- …

FUTURE
Native DC centralized high density Data Center architecture

White space
~25%
of CapEx

Grey space
up to
~75%
of CapEx

~250GW
Total data center installed capacity **by 2030**

25-40% DC
capacity (GW) installed **in 2030**

1. Based on Datacenter Industry Model – SemiAnalysis report and ABB expert interviews, Electrical Power infrastructure scope of supply and excludes GenSets, Cooling and IT Rack solutions as well as any IT Equipment

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ABB'S INFINITUS DC PORTFOLIO

Designed to power the
DC revolution from source to rack

INFINITUS DC PORTFOLIO

Enabling the Data Center transition toward DC technology

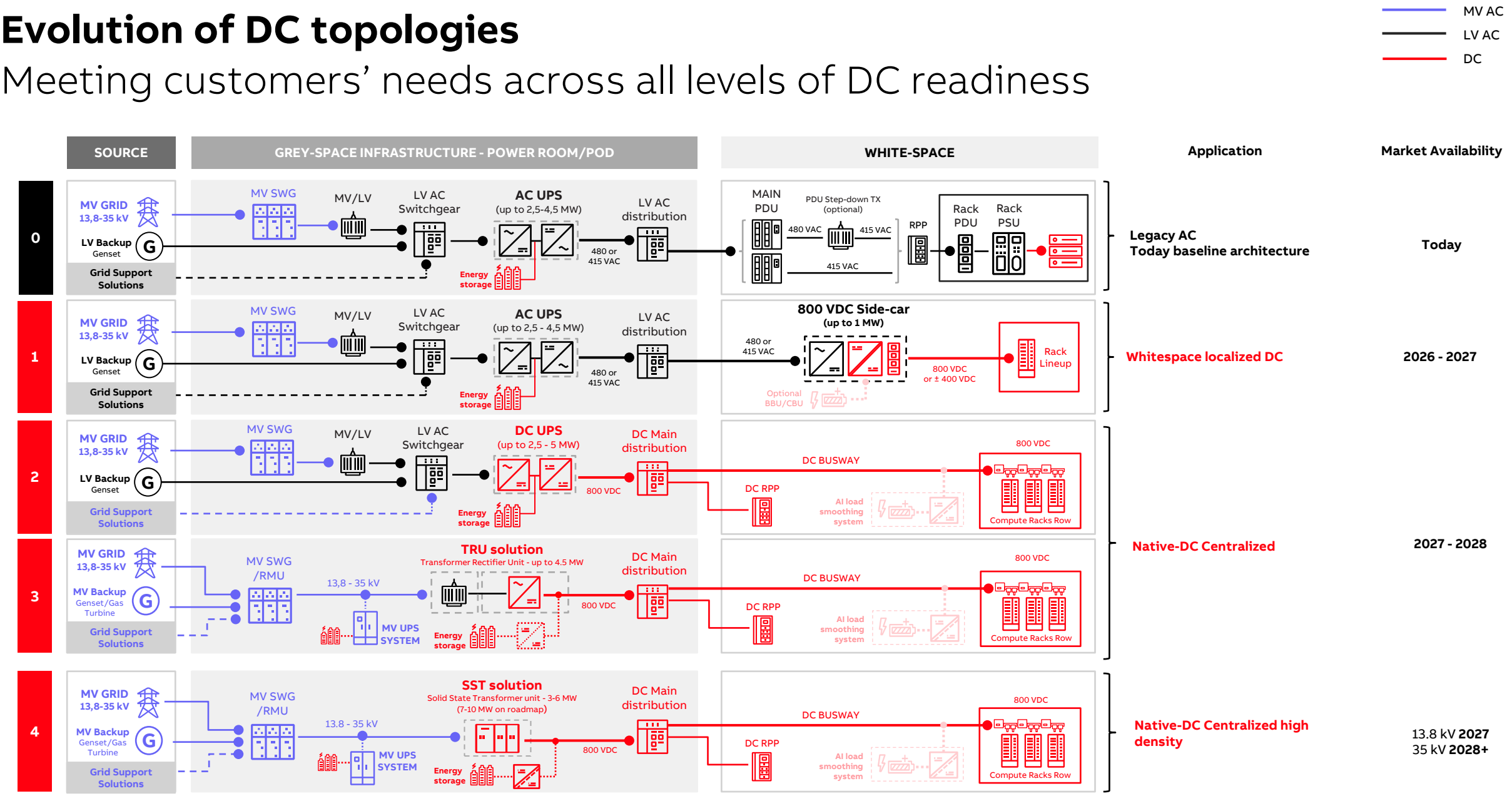
1 **Market-first source-to-rack DC portfolio for new DC Data Center architectures**, positioning ABB as the industry leader in enabling next-generation data centers

2 In 2027, **the main critical building blocks in place** across today's **transitional hybrid** and **target architectures**

3 Capture opportunities **across the entire market** and **all geographies**, regardless of customers' chosen pace of adoption

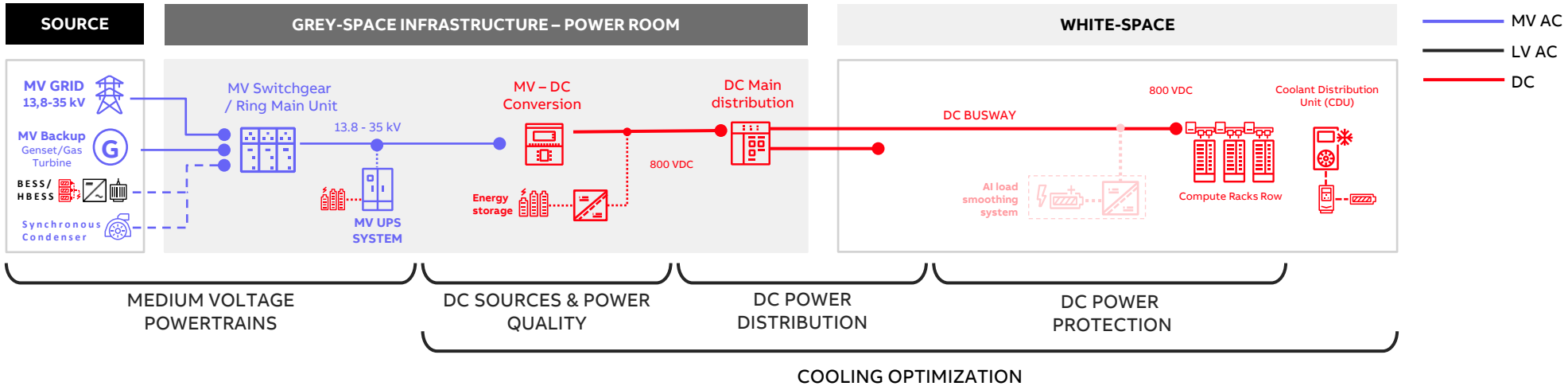
Evolution of DC topologies

Meeting customers' needs across all levels of DC readiness



Infinitus DC Portfolio | The industry's first source to rack DC portfolio

5 Key Building Blocks – DC Power Architecture



01
MEDIUM VOLTAGE POWERTRAINS

Shielding the grid from AI power demands

02
DC SOURCES & POWER QUALITY

High-efficiency DC conversion outside the white space

03
DC POWER DISTRIBUTION

Higher power density in a smaller footprint

04
DC POWER PROTECTION

Protecting people and critical hardware from overcurrents

05
COOLING OPTIMIZATION

Reducing energy use across the full cooling chain

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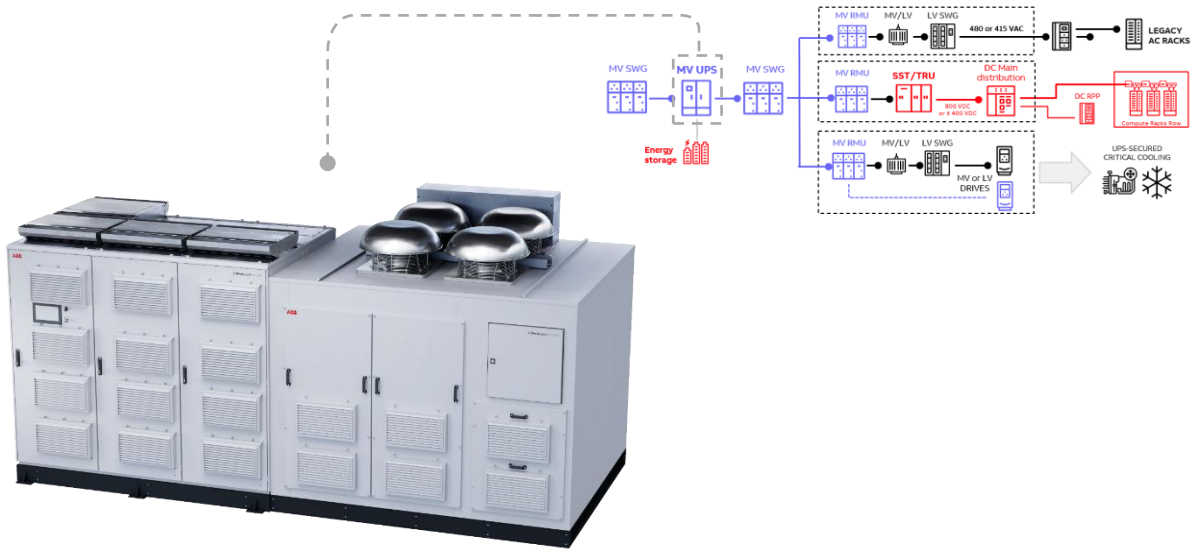
ABB HiPerGuard
Static Medium Voltage UPS



Application

- Data Center applications to power GW campus target high-density AI workloads from MV Source (Hyperscale)
- Industry heavy industrial plants with high power demand

Benefits

- Industry's **first static MV UPS** designed for hyperscale data centers Modularity, N+3 internal redundant power converters
- **Scalability**, hard parallel configuration (up 50 MW UPS system blocks) satisfying Gigawatts AI factories' power demand
- Provides **CapEx & OpEx savings**, 30% less footprint, 24x less copper and associated heat dissipation, supporting lower CO_2 emissions
- Compatible with demand response, diesel generators, gas turbines, and aggressive AI load profiles
- Class-1 performance with superior efficiency ensuring uninterrupted and clean power during grid disturbances
- Full global grid code compliance with native ride-through readiness

Did you know?

Since 2016, ABB HiPerGuard MV UPS established a worldwide installed base in the datacenter and industrial application sectors.

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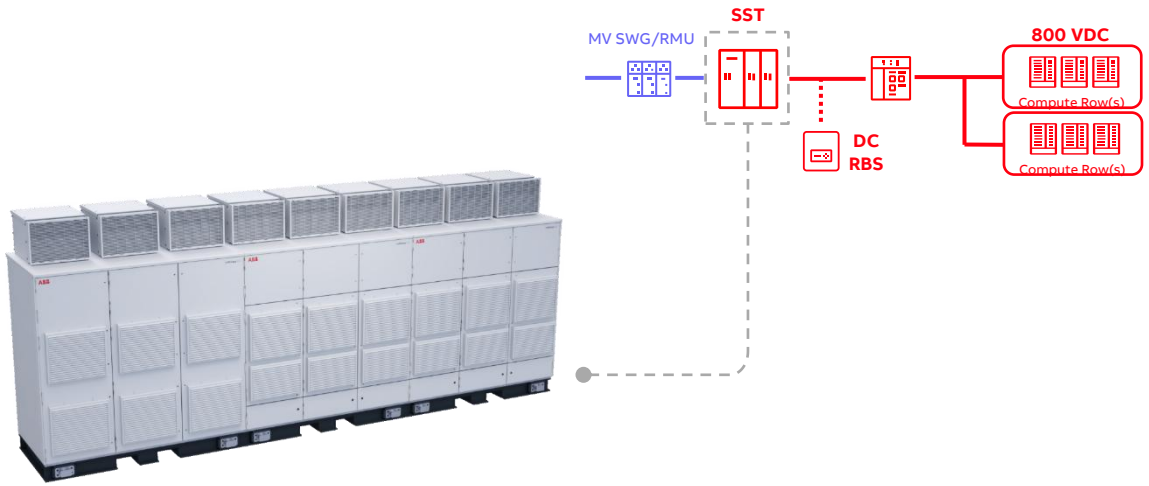
ABB Infinitus Solid State Transformer (SST)



Application

Native 800 V DC datacenter high power and superior efficiency applications to power GW campus, target high-density AI workloads from MV AC Source

Benefits

- Emerging technology that converts medium-voltage AC from source grid input into **stable 800V DC output**
- Optional Energy Storage Systems (ESS) coupled block & row DC feed output protection providing a **fully-integrated MV to DC** packaged solution
- **Superior efficiency** in compact footprint
- Optimized for quick-deploy (Skid & eHouse integration)
- MV/LV low-frequency transformer-less solution

Did you know?

The SST comprises of existing and proven reliable and robust ABB components and platforms, including existing factories and production know-how as well as our qualified suppliers from Traction and MV Drives businesses.

Specifications for products marked as “Under Development” may change without notice.

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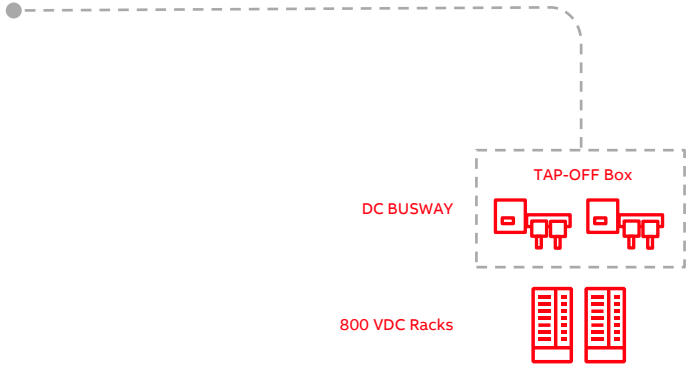
ABB Infinitus Solid State Circuit Breaker (SSCB)



Application

- Infinitus SSCB with two new frames of 250 A and 500 A developed specifically for critical loads in DC applications
- Infinitus SSCB provides unparallel rack protection eliminating needs for OR-ing diodes and hold-up capacitors in the IT rack
- Available on UL489I and IEC 60947-10

Benefits

- Power electronic section that provides **ultra-fast short-circuit detection** and interruption. Electromechanical switch that provides galvanic isolation and can **switch load currents**
- Compact design with air cooling
- Settable tripping thresholds
- Both poles protected → full handling of IT-grounded systems
- Ultra-fast detection mechanism enables high di/dt handling and fast response protection for first Native DC racks

Did you know?

Originally developed to comply with ODCA and Current/OS standard the circuit breaker offers full short-circuit protection and isolation in both poles, making it the ideal solution for IT LVDC systems.

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Leading the DC power transformation

ABB's Infinitus DC Portfolio for Data Centers

OUR PORTFOLIO

1. **Market-first source-to-rack DC portfolio for new DC Data Center architectures**, positioning ABB as the industry leader in enabling next-generation Data Centers

2. In 2027, **main critical building blocks in place** across today's **transitional hybrid** and **target architectures**

3. Capture opportunities **across the entire market** and **all geographies**, regardless of customers' chosen pace of adoption

Flexible portfolio to support customers across multiple architectures & time horizons

Data Center CapEx spend shifting to grey space, where ABB has its main exposure

Infinitus DC portfolio production within existing ABB CapEx level

Supportive to ABB Electrification Op. EBITA margin target of 22% - 26%

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