sesto san giovanni | june 10th 2022

**ABB contribution to broader Arena of the Future**

One of the key priorities for the Arena of the Future Electric Road test circuit is securing a safe and sustainable energy supply, reliable enough to power the innovative Wireless Power Transfer Charging System, while providing the highest safety standards to protect operators and users.

ABB’s solution combines medium to low voltage energy distribution technology with advanced Direct Current (DC) distribution solutions and breakthrough **Solid State Circuit Breaker** (SSCB) protection, to deliver 1MW of sustainable DC power safely to the test circuit. The first pilot of its kind to use direct current to power an electric road system, the solution offers improved efficiency and 30 percent savings on cabling costs compared to AC installations.

For the highest safety standards, ABB’s new SSCB can detect and respond to a short circuit fault 100 times faster than a traditional mechanical circuit breaker. In case of a road traffic incident, this will ensure that any short circuit faults are cleared quickly and the whole system shut off in microseconds.

Charging the test circuit with reliable green energy, the ABB solution can be combined with renewable energy generators, microgrids and battery storage technologies. The charging infrastructure can also be expanded to bring reliable power to communities located along an electrified highway, creating the potential for Electric Roads to create the renewable energy communities of the future.

To maximize performance and energy efficiency, data collected from the pilot will be evaluated using a digital twin created by the ABB Ability™ Energy and Asset Manager. The digital platform will also provide remote monitoring for the project.

ABB’s comprehensive solution for the Arena of the Future includes:

* One complete e house (electrical house) containing Medium Voltage (MV) switchgear, Medium Voltage / Low Voltage transformers
* AC / DC Diode rectifiers
* MNS-R DC switchgear
* Solid State Circuit Breaker
* AC distribution boards
* Sub distribution panels For DC distribution Ring at 800-1500 VDC
* Energy monitoring and intelligent distribution Supervision with ABB Ability™ Energy and Asset Manager
* Remote monitoring

***ABB****(ABBN: SIX Swiss Ex) is a leading global technology company that energizes the transformation of society and industry to achieve a more productive, sustainable future. By connecting software to its electrification, robotics, automation and motion portfolio, ABB pushes the boundaries of technology to drive performance to new levels. With a history of excellence stretching back more than 130 years, ABB’s success is driven by about 105,000 talented employees in over 100 countries.*[*www.abb.com*](https://global.abb/group/en)*.*

***ABB’s Electrification Business Area*** *is a global leader in electrical products and solutions, operating in more than 100 countries, with over 200 manufacturing sites. Our 50,000+ employees are dedicated to transforming how people live, connect and work by delivering safe, smart and sustainable electrification solutions. We are shaping the future trends of electrification, differentiating through technological and digital innovation while delivering an outstanding experience through operational excellence for our customers across utilities, industry, buildings, infrastructure and mobility.*[*go.abb/electrification*](https://new.abb.com/about/our-businesses/electrification)

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