

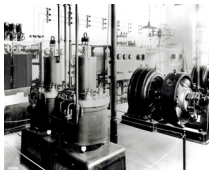
# 100 Years of Power Electronics Milestones in History

1913



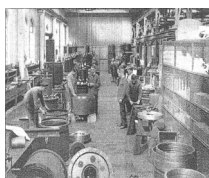
BBC begins development and production of mercury-arc rectifiers

1915



BBC mercury-arc rectifiers used in the Limmattal Tramline Zurich - Dietikon, Switzerland

1921



Opening of BBC production facility for mercury-arc rectifiers in Lampertheim, Germany

1938



First locomotive using multi-anode mercury-arc rectifiers from BBC Mannheim, Germany

1939



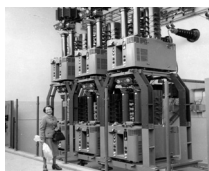
First HVDC transmission line (pilot installation) Wettingen - Zurich, Switzerland

1954



BBC develops the first germanium diode

1954




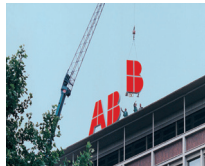






First commercial HVDC transmission line connecting Gotland island with the Swedish mainland (ASEA)

1964



First locomotive using BBC silicon diodes (RE 4/4 Series 161, BLS)

- 1967**  First locomotive using ASEA silicon thyristors (Type Rc)
- 1981**  Inauguration of BBC high power semiconductor factory in Lenzburg, Switzerland
- 1987**  First BBC locomotive using GTO converters (BT / SZU)
- 1988**  ASEA (Sweden) and BBC (Switzerland) merge to form ABB (Asea Brown Boveri)
- 2010**  Inauguration of expanded production facility at ABB Semiconductors in Lenzburg, Switzerland
- 2010**  Acquisition of semiconductor factory Polovodice in Prague, Czech Republic
- 2012**  Successful design and development of ABB's hybrid HVDC breaker
- 2013**  Ground-breaking for new high power semiconductor development lab in Baden-Dättwil, Switzerland

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