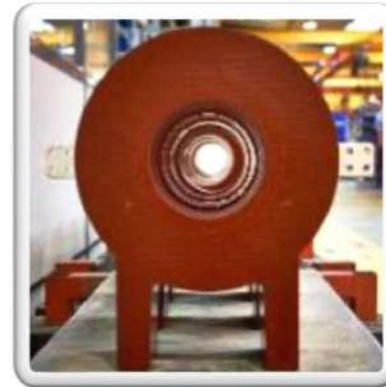




Specific dry-type transformers & reactors



Our history...



Purchase by
Schneider Electric group



Creation of BCV Technologies after
acquiring *Boige & Vignal*



Purchase by SGB-SMIT group

Creation of *BC
Transformateurs*



1947



1995



2000



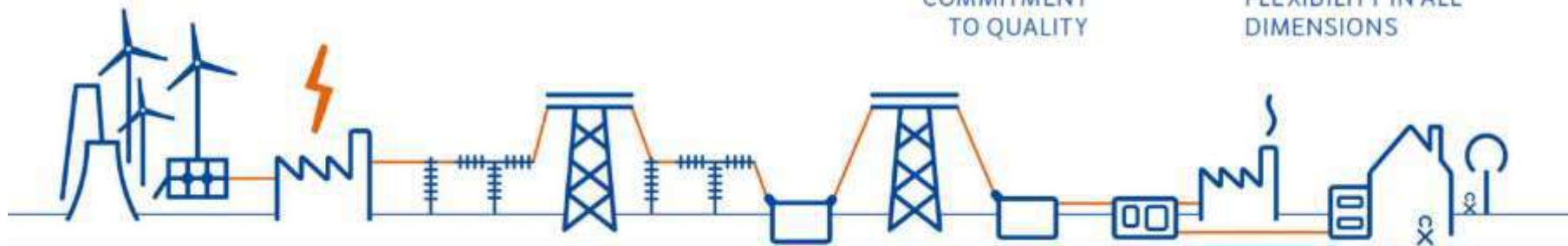
2018



SGB-Smit group at a glance

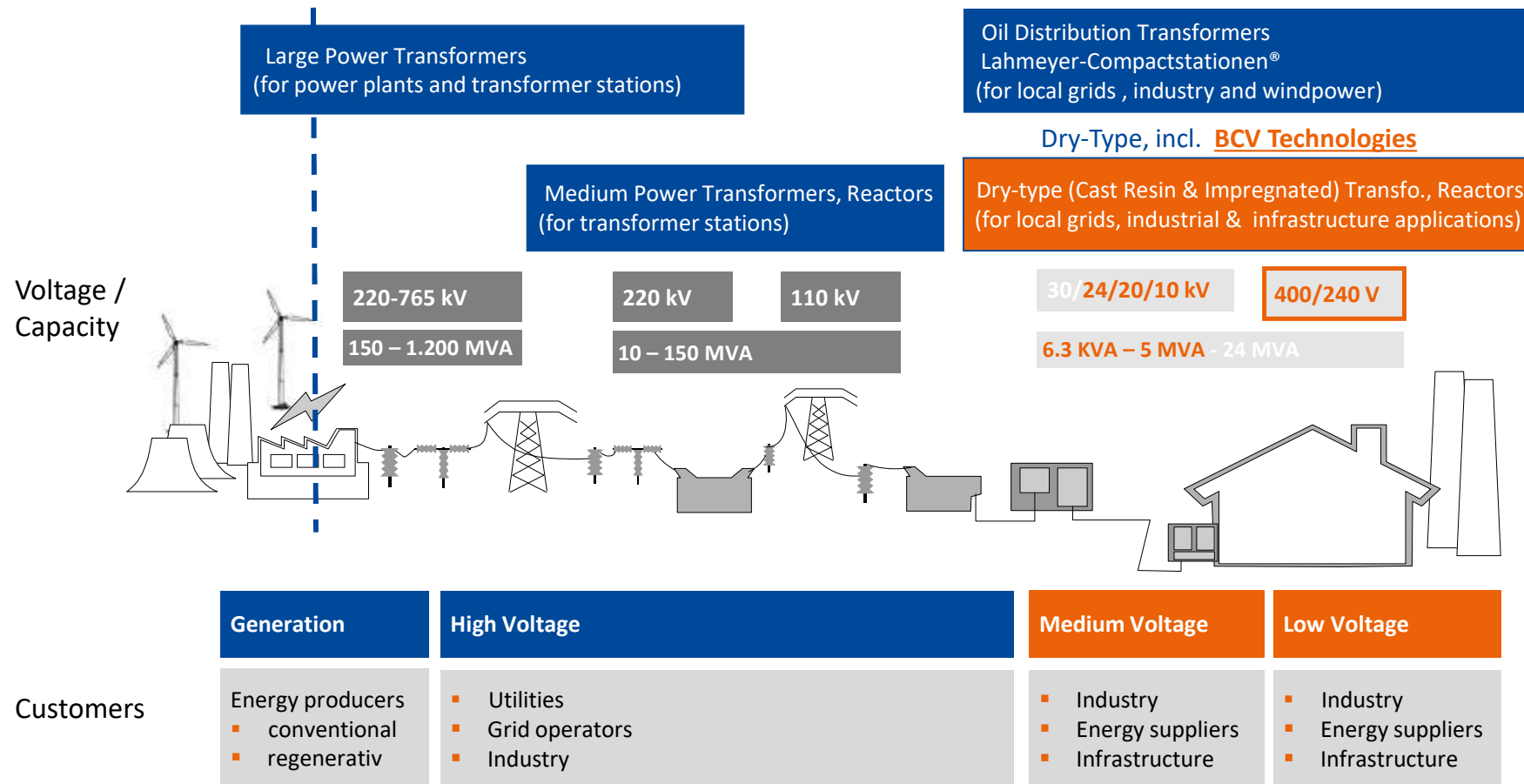


- Among the leading manufacturers of power transformers in the world (6.3 kVA up to 1 200 MVA / 5V up to 765 kV)
- Turnover in **2018**: > 760 Mio. €
- 2019:**
 - > 3 500 employees
 - 9 plants + 3 start-ups
 - Transformer expertise since 1913



Complete range of applications

Generation > transmission > distribution & specific applications



BCV Technologies key figures

2019

- **86** employees
- **1** production site in France (7000m²) with:
Technical (incl. R&D) + Supply Chain
- **In-house** routine tests, types tests...



BCV Technologies



Privileged partner for your
SPECIFIC applications &
BESPOKE solutions

Our quality commitments

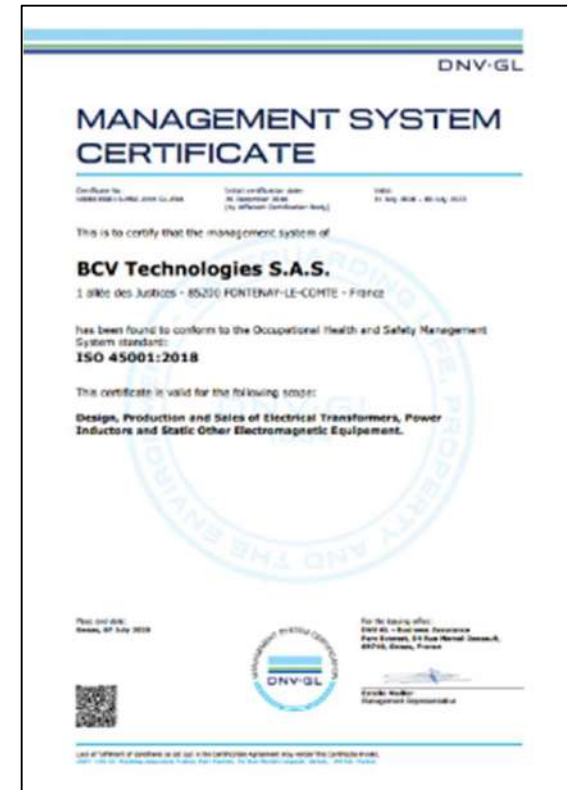
Certifications :



ISO 9001 - version 2015:
until July 30th, 2023



ISO 14001 - version 2015:
until July 30th, 2023



ISO 45001 : 2018*
until July 30th, 2023

* Replaces OHSAS 18001:2007

Our global offer

2 dry-type technologies



3 product families

Imprego
Impregnated
transformers



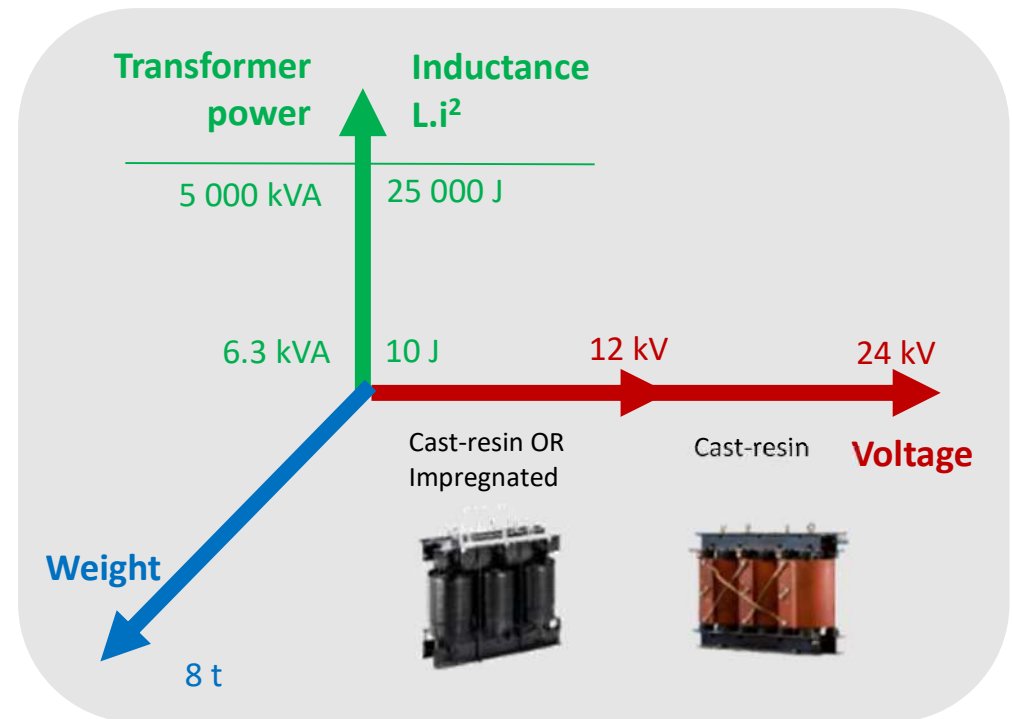
Strongo
Cast resin
transformers



Indugo
Dry type
reactors



- **Know-how:** 70-year experience
- **Expertise:** engineering, design (R&D)
- **Flexibility** and adaptability
- **Quality** → Optimized OPEX



Imprego vs. Strongo



Imprego

- Transformers* LV + MV
≤ 5 MVA / 12 kV

Impregnated

- 6.3 kVA to 5 MVA
- Until 12 kV
- AN, AF, WF, AFWF
- Enclos. : IP21 to IP66
- 16Hz ⅓ to 2000Hz
- Copper / Aluminum

Strongo

- Transformers* LV
≤ 600 kVA
- Transformers* MV
≤ 3 MVA / 24 kV

Cast resin

- 10 kVA to 3 MVA
- Until 24 kV
- AN, AF, WF, AFWF
- Enclos.: IP21 to IP66
- 16Hz ⅓ to 2000Hz
- Copper / Aluminum



Technology assets

- More flexible, high level adaptation to the customer's application specificities (wider range of power, seismicity, etc.)
- Typically better price
- Insulation class: H
- Heats down faster
- Typically more compact in LV

Technology assets

- High resistance (particularly suited for harsh environment)
- Reliability even above 12 kV
- Dismountable
- More compact in HV

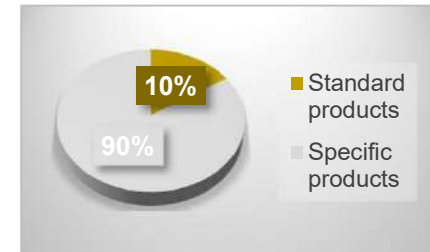
* Including autotransformers

Imprego [Standard] & [Medigo]

Two sub-families of standardized Imprego

UNITS IN STOCK (MTS)
➔ Available in **1 or 2 DAYS**

PARTS IN STOCK (MTO)
➔ Available in **1 or 2 WEEKS**



- Imprego [Standard]**
Single-phase Transformer
- Power: 6.3 to 20 kVA
 - Voltage ratio: 231/115V, 231/231V, 400/115V or 400/231V



- Imprego [Medigo]**
Healthcare single-phase / Three-phase Transformer
- Power: 6.3 to 10 kVA
 - Voltage ratio: 230/115-230V (single-phase) or 400/230V (three-phase transformer)

✓ **NF EN 61558-2-15**



- Imprego [Standard]**
Three-phase Autotransformer
- Power: 10 to 400 kVA
 - Voltage ratio: 231/400V or 400/231V



- Imprego [Standard]**
Three-phase Transformer
- Power: 8 to 400 kVA
 - Voltage ratio: 400/400V or 400/231V



Imprego [Green]

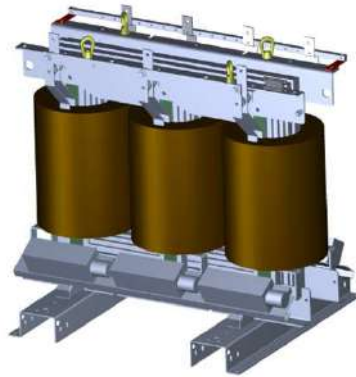
A sub-family of LV transformers with low losses

Low Voltage transformers are not presently in the scope of efficiency targets set by Ecodesign regulation, but we accompany you here and now in your green projects and developments with a dedicated range of products:

Imprego [Green]

Dry type impregnated Low Voltage transformers with

- Reduced losses
- High efficiency



A few ex. of special transformers...



Earthing transformer
(for nuclear power plant)
Imprego



MV/LV AF & WF transformer
(for electrochemical process)
Imprego



IP65 LV transformer
(for Oil & Gas outdoor application)
Strongo

A few ex. of special transformers...



12-pulse transformer with 1 cast resin MV primary winding
+ 2 impregnated LV secondary windings
Strongo

24-pulse transformer
Imprego

Our dry-type reactors



Indugo



Technology assets

- More **flexible**, high level **adaptation** to the customer's application specificities (wider range of power, seismicity, etc.)
- Typically **better price**
- **Insulation class: H**
- **Heats down** faster
- More compact in LV

Impregnated

- DC or AC
- Air or iron core
- ≤ 12 kV**
- AN, AF, WF
- Enclos.: IP21 to IP42*

Cast resin

- DC or AC
- Air or iron core
- ≤ 24 kV
- AN, AF, WF
- Enclos.: IP21 to IP42*

Technology Assets

- **High resistance** (particularly suited for harsh environment)
- **Reliability** even above 12 kV
- **Dismountable**
- More compact in HV

* Outdoor / higher IPxx solutions to be studied on a per-case basis

** Possibly up to 36kV for particular cases (ex. reactors on isolators)

Indugo – Main families

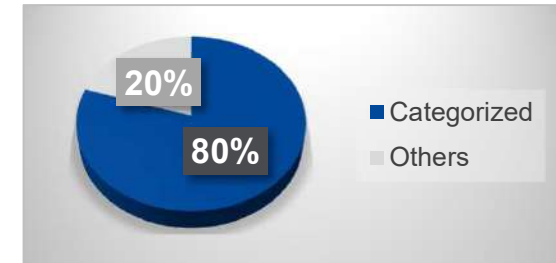
Different specificities for different applications

(Short-circuit) current limiting reactor

Impedances fitted in series on the supply network to limit short-circuit currents, thus reducing protective device requirements (ring main units)

Power factor correction reactor

Compensate capacitive current and correct power factor in order to reduce losses



(Harmonic) filter reactor

Address the harmonics problems created by non-linear load such as AC-DC converter, DC drives, welding m/c etc.

Smoothing reactor

Smooth out the harmonic currents and transient over-currents (ripple) in DC systems (rectifying/switching power supply, etc.)

A few ex. of special reactors...



5-column water-cooled reactor
(for energy conversion)
Indugo



Coupling reactor
(for UPS units)
Indugo



Short-circuit limiting reactor
(for MV network on ship)
Indugo

Some of our enclosures



Enclosure IP21



IP23



IP31

Ex. of
INDOOR
solutions

Ex. of
OUTDOOR
solutions



Enclosure IP44



IP54



IP66

A wide range of optional accessories



1 Thermostatic probes



2 PT100 probes



3 Infrared window

10 Fuses (HV)



4 Relay type MSF220K



7 Standard pad



11 Circuit breaker

5 MB103 unit



8 Specific pad



12 Lock

6 T935 unit



9 Standard bi-directional rollers



13 Space heater with thermostat (integrated or not)



A wide range of accessories

A few examples of customization



Strongo
With integrated accessory box
and infrared windows



Strongo
With integrated protection box
with MV fuses

Main markets & applications



Industry



Marine



Oil & Gas



Datacenter & Secure network



Building & Infrastructure



Healthcare



Contact us :

bcv-technologies@sgb-smit.group - Tel. +33 (0)2 51 53 22 00

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