ScandiNova Systems Company Overview

Kévin Pepitone

Accelerator Physics in Sweden, 12 Nov 2025

ScandiNova
Part of Nodica Group

ScandiNova

Outline

ScandiNova part of Nodica group

K-series modulators

Nodica group

ScandiNova
Part of Nodica Group

Milestones

From invention to industry leader in 30 years

1995

Pulsed power with solid-state technology invented

2001

ScandiNova is founded by Mikael Lindholm, Walter Crewson and David Woodburn

2009

First delivery to CERN

2017

Elekta

varian

A Siemens Healthineers Company

OEM agreements Varian and Elekta

2019

1000 units delivered

2020

New premises in Uppsala, Sweden

2022–2023

SCANDITRONIX

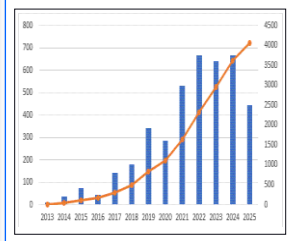
IECO

microwave amps

New members in the group:

Scanditronix Magnet
IECO
Microwave Amps

2025



4000 units delivered and employing >150 (>250 in the group)

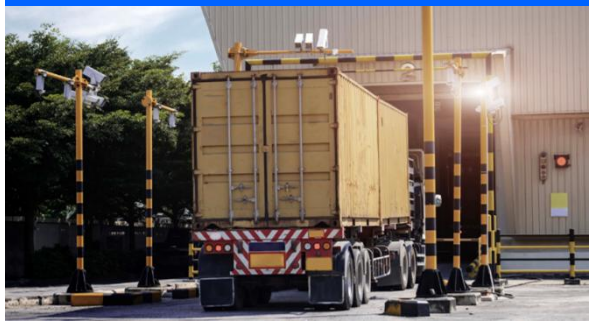
Application examples

Our impact spans across diverse application areas

Radiotherapy & Proton therapy

Isotope production

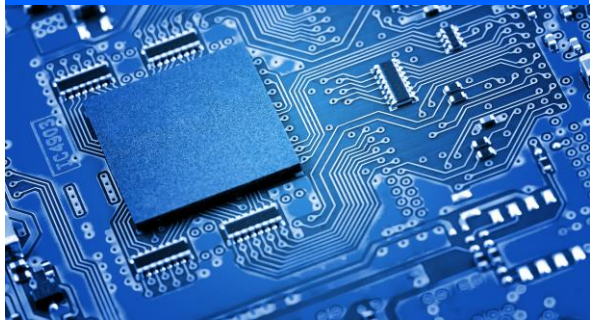
Cargo Scanning



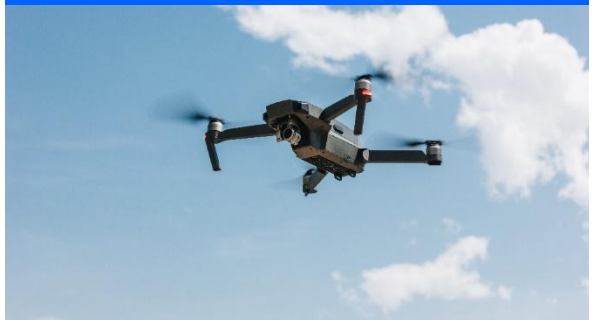
Radar (weather, surveillance)

E-beam processing

Semicon Production



Drone inactivation



Scientific Research

Modulators

Product range

	M060	M100	M100-i	M110	M200	K100	K200	K300	K400	K500	PG050	PG200	E110D-i
													
RF peak power [MW]	0.2–2.0	1–3.1	1–3.1	1–3.1	2.5–5.0	3–10	7–35	25–50	30–60	50–100	n.a.	n.a.	n.a.
Pulse voltage [kV]	16–38	30–52	30–52	30–52	40–75	115–190	160–290	250–360	280–450	320–500	30–52	0–50	0–30
Pulse current [A]	20–100	30–120	30–120	30–120	30–250	90–140	120–280	200–350	230–450	300–525	30–120	0–1200	0–1
Mod peak power [MW]	3.8	6.2	6.2	6.2	14	26	80	115	160	220	6.2	36	0.03
Mod avg. power [kW]	1.5	8	8	8	16	30	55	80	125	160	8	80	0.04

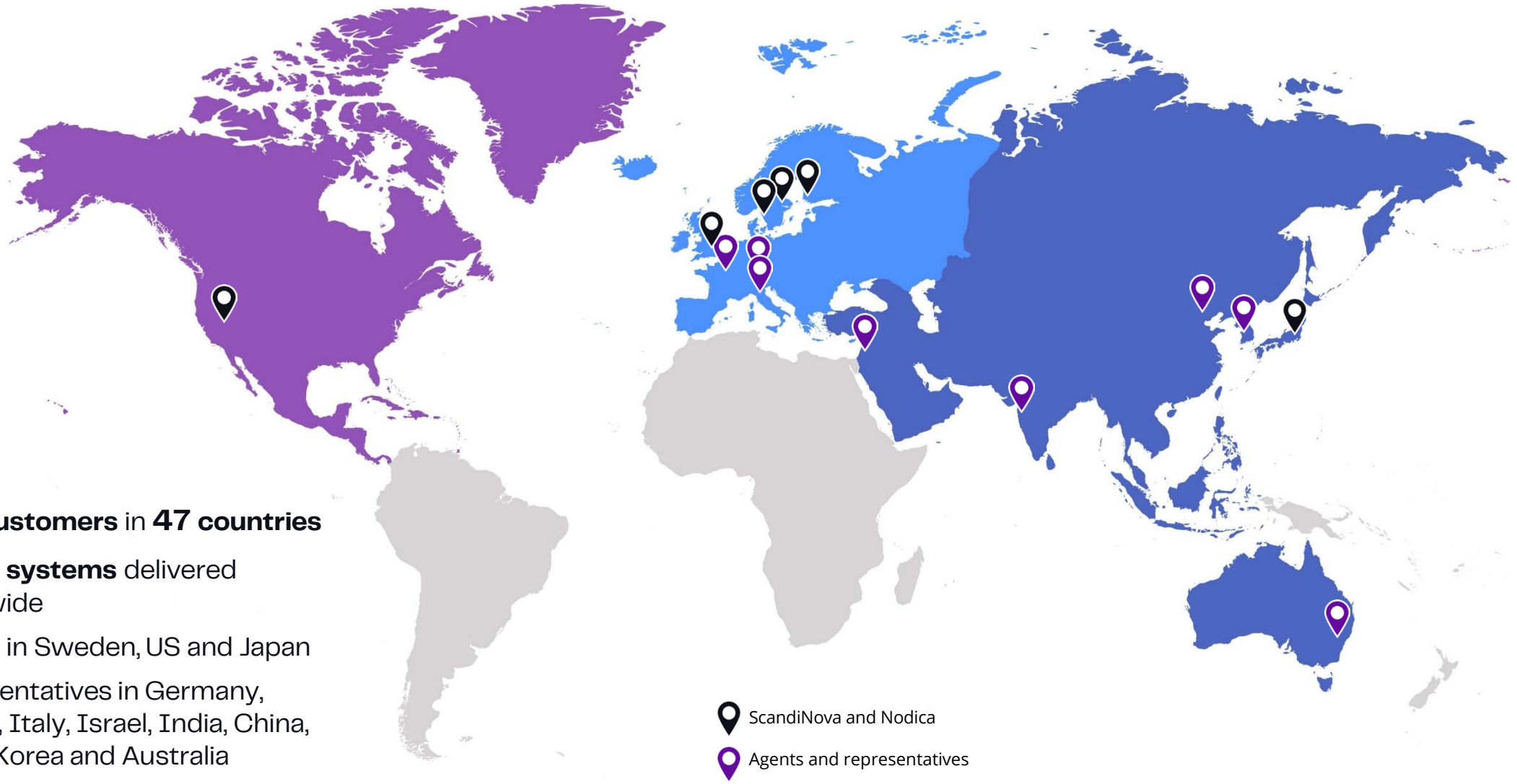
Sustainability at the heart of our Operations

- Products with high energy efficiency
- Long-life products with high uptime
- Circular product design
- Minimized consumables
- Source the most sustainable freight forwarders and mode of transport
- ISO 9001/14001 certified

ScandiNova's installed base of pulse modulators saves over 10 GWh per year in energy consumption compared to traditional technology.

ScandiNova
Part of Nodica Group

Our global presence



190 customers in **47 countries**

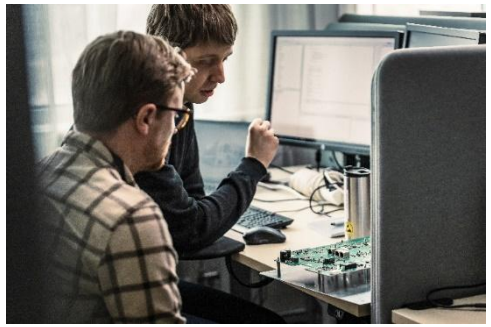
4000 systems delivered worldwide

Offices in Sweden, US and Japan

Representatives in Germany, France, Italy, Israel, India, China, South Korea and Australia

Full in-house production

Development | Design | Assembly | Test



- Close to 25 years of developing and designing solid-state high-power modulators and RF units

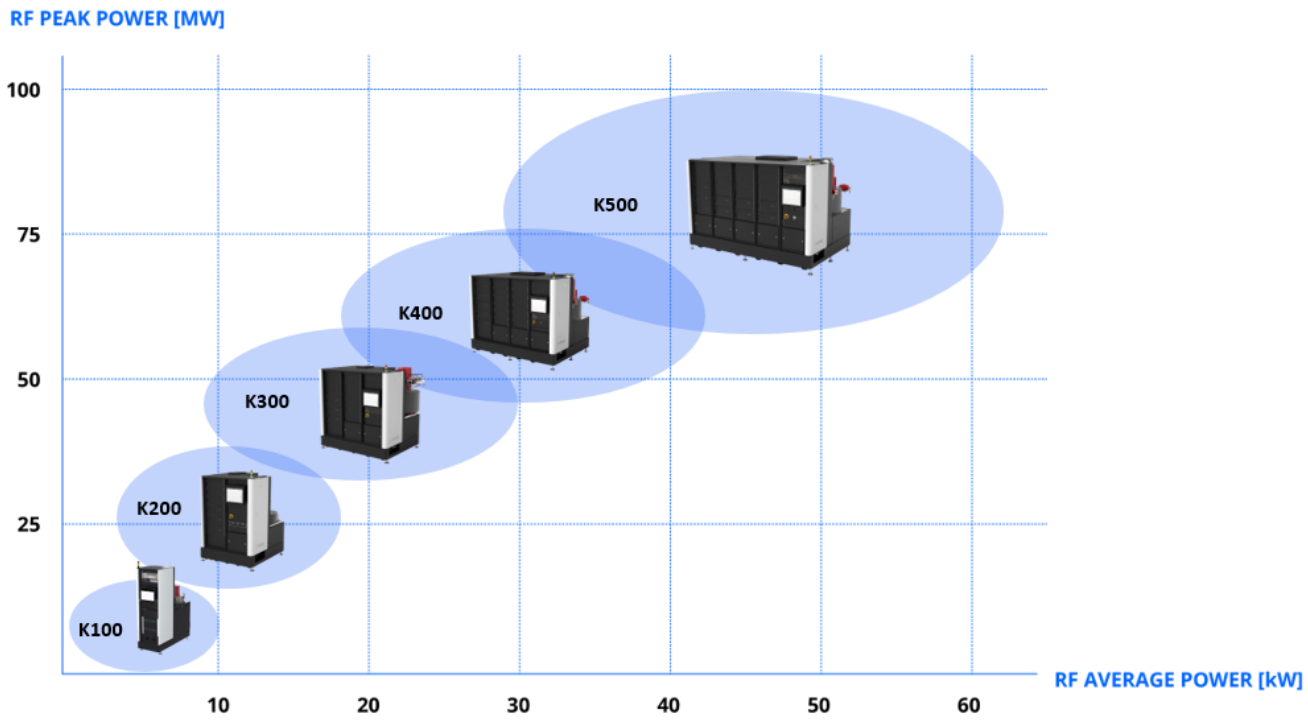
- Two assembly facilities of 700 m^2 and 900 m^2
- Series assembly based on 5S / Lean methodology

- 8 adapted test cells
- High voltage performance and RF measurement

K-series modulators

K-series

A versatile modulator to drive klystrons from 3 to 100 MWA

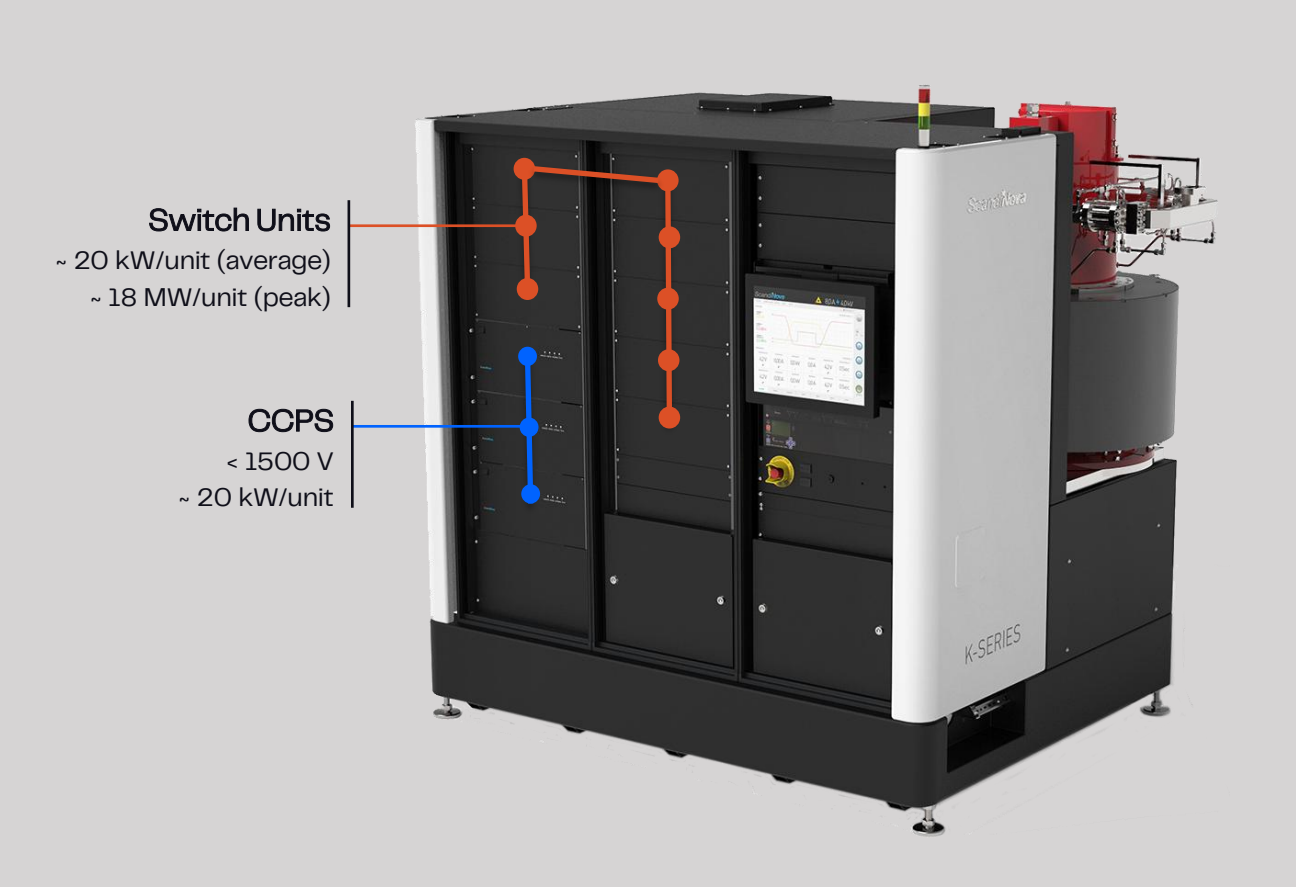


K-Series RF Unit

- Converting mains power to pulsed RF power
- Includes klystron with supporting sub-systems
- Up to 100 MW peak RF
- Modular designs using standardized sub-units
- Advanced control system
- High reliability and up-time
- Precise and stable output
- High personal safety

K-series

A versatile modulator to drive klystrons from 3 to 100 MWA

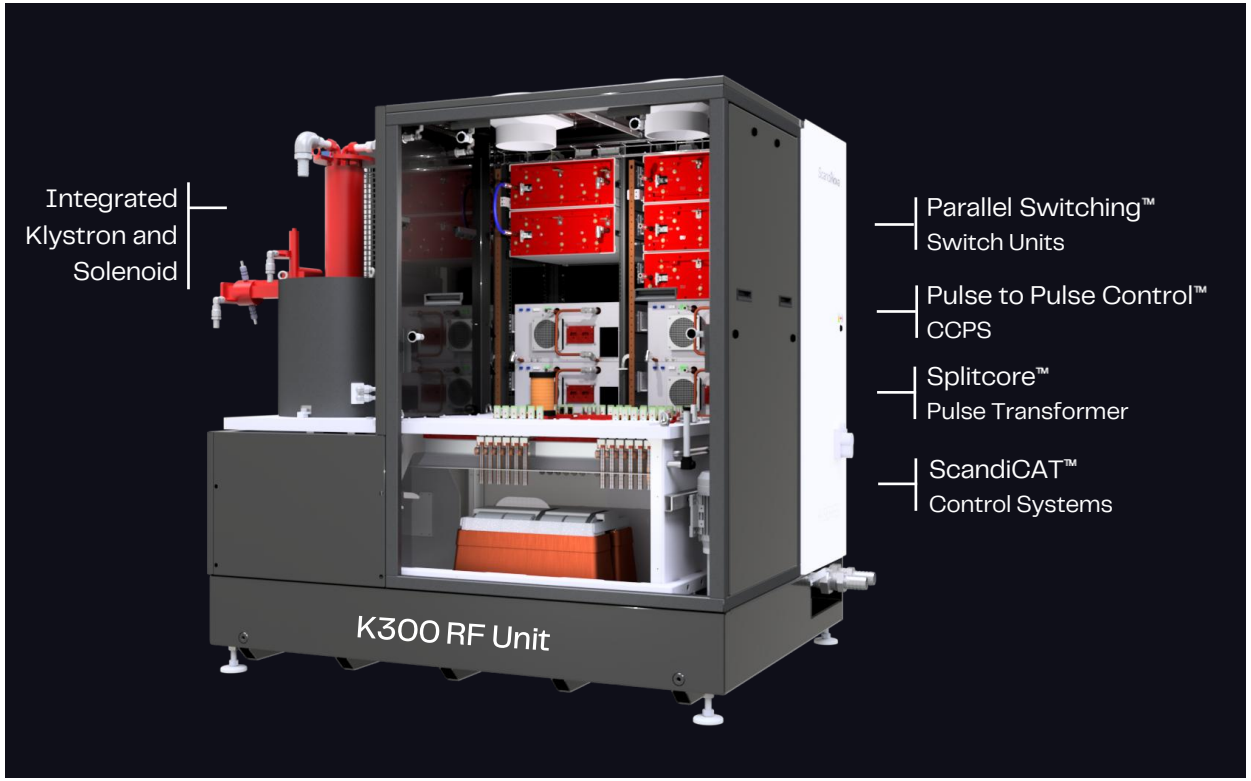


The standard RF Unit includes:

- Modulator
  - Capacitive Charging Power Supply
  - Filament Power Supply
  - Switch Units
  - Pulse transformer
  - Control system
  - Cooling system
- Klystron
- Solenoid & Power Supply
- Ion Pump Power Supply
- Low level RF Amplifier
- RF diagnostics

K-series

Unique technology leads to several advantages



High performance

- High precision pulses, down to pulse-to-pulse stability of 8 ppm
- Controllable and adjustable pulses
- High uptime

Compact design

- 1/3 size compared to conventional technology
- Low weight
- Split design for easy integration

Sustainable solutions

- > 30% reduction in energy consumption
- Minimized number of consumables
- High personal safety

Nodica group

ScandiNova
Part of Nodica Group

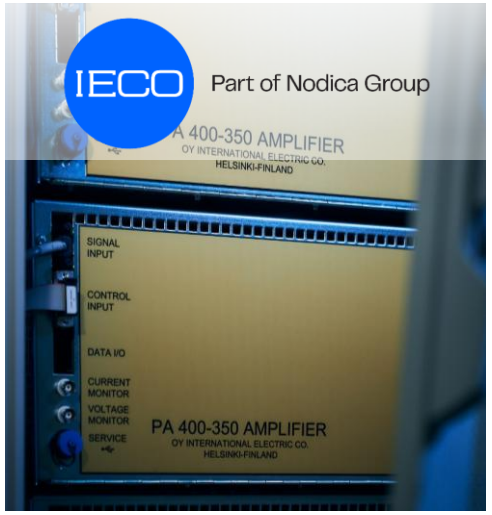
Nodica Group

ScandiNova is part of Nodica Group providing new generation power systems

Nodica Group

High-voltage pulsed power systems

Magnets & Coils

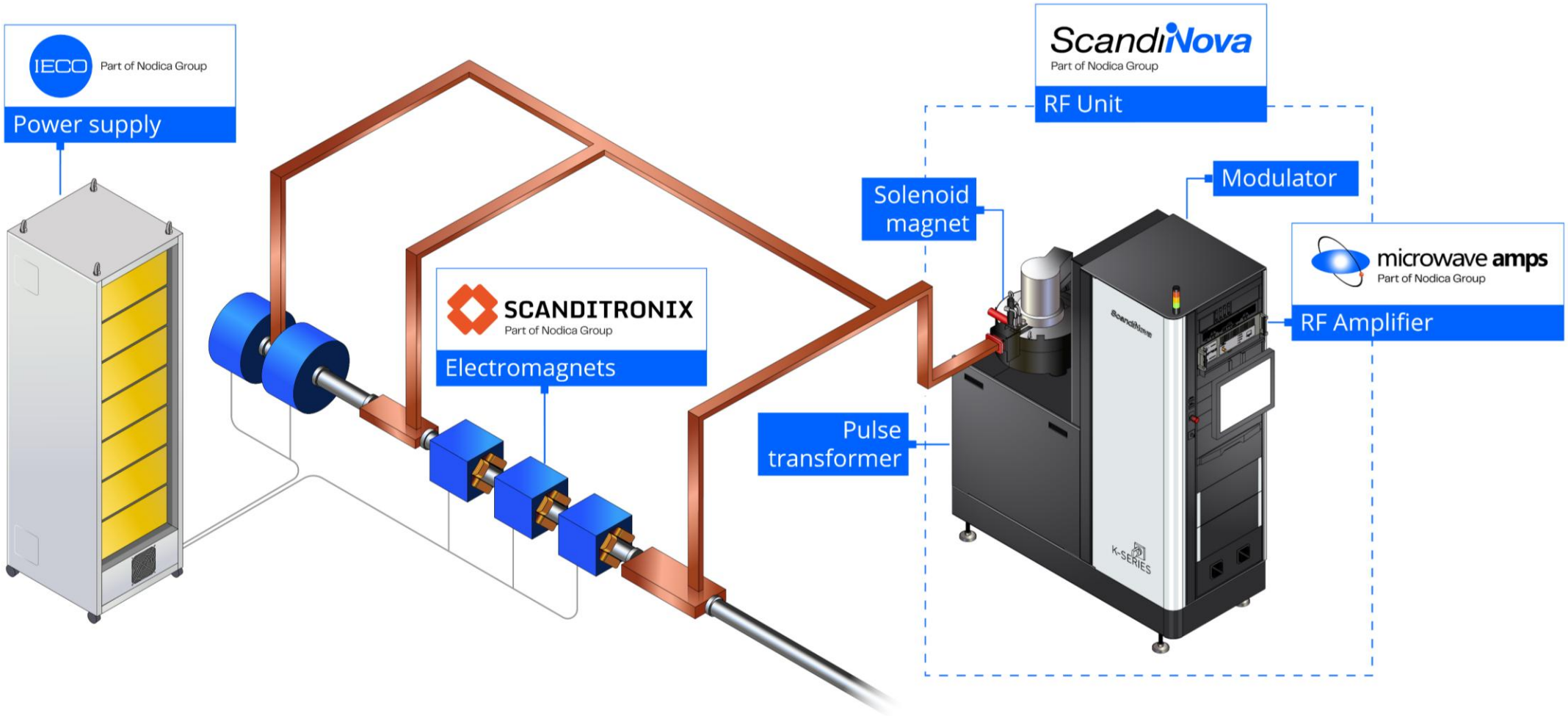


Amplifiers and precision power supplies

RF and Microwave amplifiers

Nodica Group

Critical sub systems for particle accelerators



AOB

Collaboration

(Closed-Loop) Turnkey RF Unit

Collaboration ScandiNova Part of Nodica Group LIBERA

Thanks for your attention!

ScandiNova
Part of Nodica Group