



- Jan 15, 2022
- [Schroff](#)

## [Electronics design, layout and simulation](#)

### Tagged with

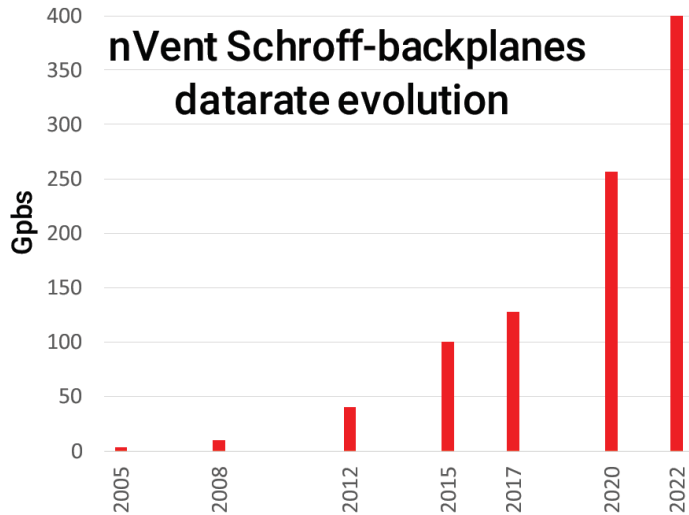
- [Backplane](#)
- [electronics design](#)
- [Signal Integrity](#)
- [Test & Measurement](#)

All new Megatrends like [5G](#), [IoT](#), [autonomous driving](#) drive the need for significantly higher data transfer and increased processing power. This also influences the way embedded systems are designed and manufactured. Especially when it comes to components such as the electronics design, backplanes, control modules, carriers, and other electronic boards.

### **Electronics development**

At nVent SCHROFF, we support our customers with high-speed backplane design as well as switch or bridge designs, development of hardware management solutions such as fan control units, chassis or shelf management modules. In order to achieve the best performance, we always consider the physical and environmental conditions during the development of printed circuit boards and the end product:

- signal and power integrity,
- cooling,
- manufacturability,
- and EMC behavior.



## Signal Integrity

As the signal frequencies get higher, the signal density gets tighter and footprints get smaller, problems like crosstalk and signal losses are more common. The geometry of the signal traces, the launch into/out of the connector pins and material selection start to play a major role in the performance of a modular channel.

We use simulation tools such as HFSS and ADS for pre- and post-layout simulations to address these factors and improve channel parameters.

