

WHY DCES?

- Tape libraries are **highways for airflows** and bits on tapes are now smaller than bacteria
- Commercially available solutions are **too expensive or too slow** and do not physically fit inside tape libraries



PERFORMANT AND VERSATILE

- DCES samples the traversing airflow at 100Hz and sends measurements every 2 seconds
- DCES quantifies small dust particles, temperature, humidity and **detects large particles** (dangerous for data on tape)
- DCES is versatile:



DCES in a tape drive tray



DCES in an ATX PSU

HARDENED DESIGN

- DCES is built with **industrial grade components** and designed to be **maintenance free**
- Its electronics has been tested up to **0.5 Teslas** for rough physics experiments use

EASY INTEGRATION

- DCES is **fully opensource**: CERN open hardware license and firmware is GPLv3
- DCES is used **outside CERN IT and outside CERN**
- Easy to integrate in any monitoring environment

350A magnet torturing of DCES electronics:



Example Jupyter dust alert reporting in CERN Computer Center:

