AD

Significant issues not covered by AFT:

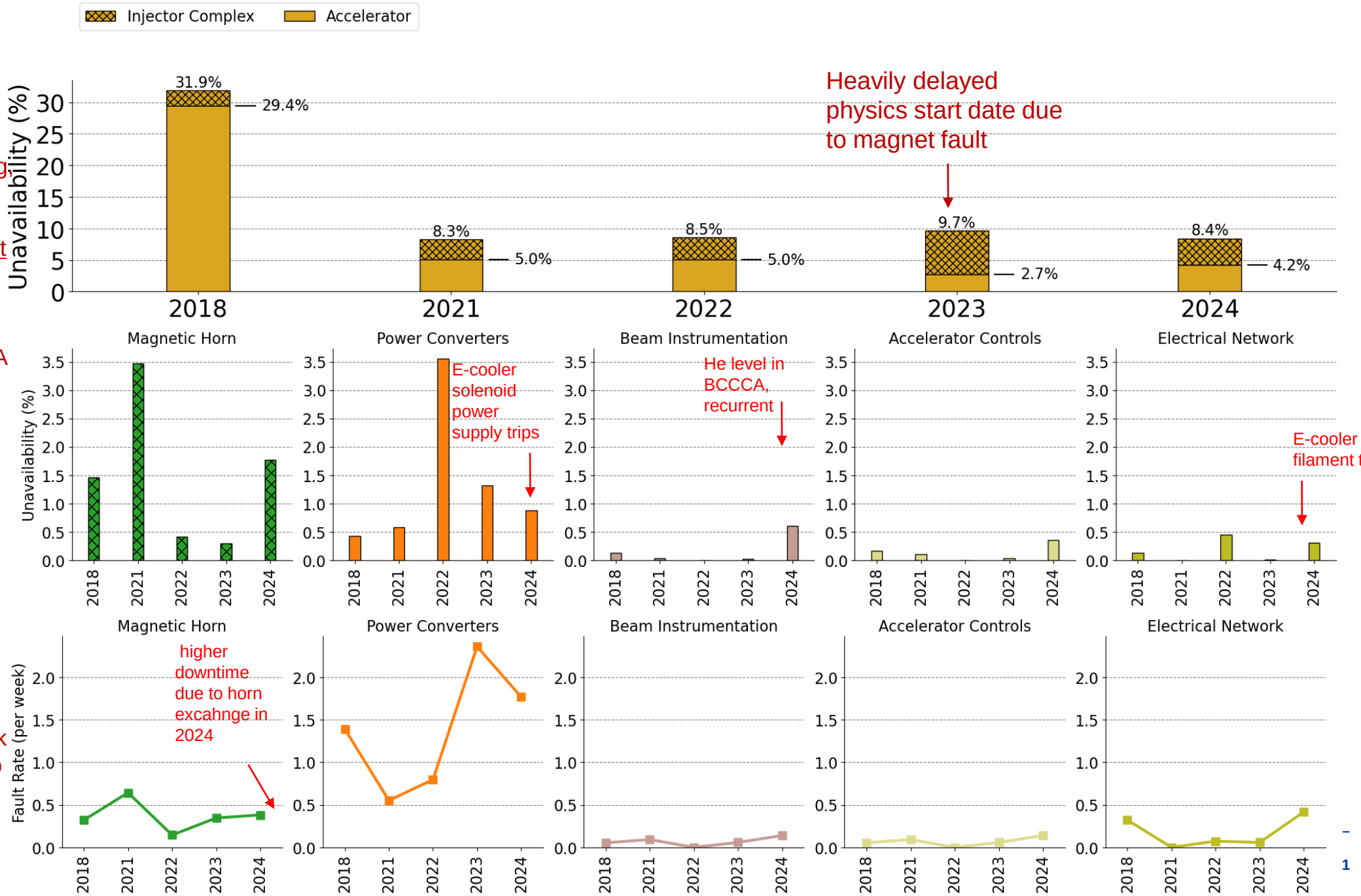
- Many systems in degraded mode: target, magnetic horn
- Non-blocking faults with stochastic cooling instrumentation

Recurrent issues from last year:

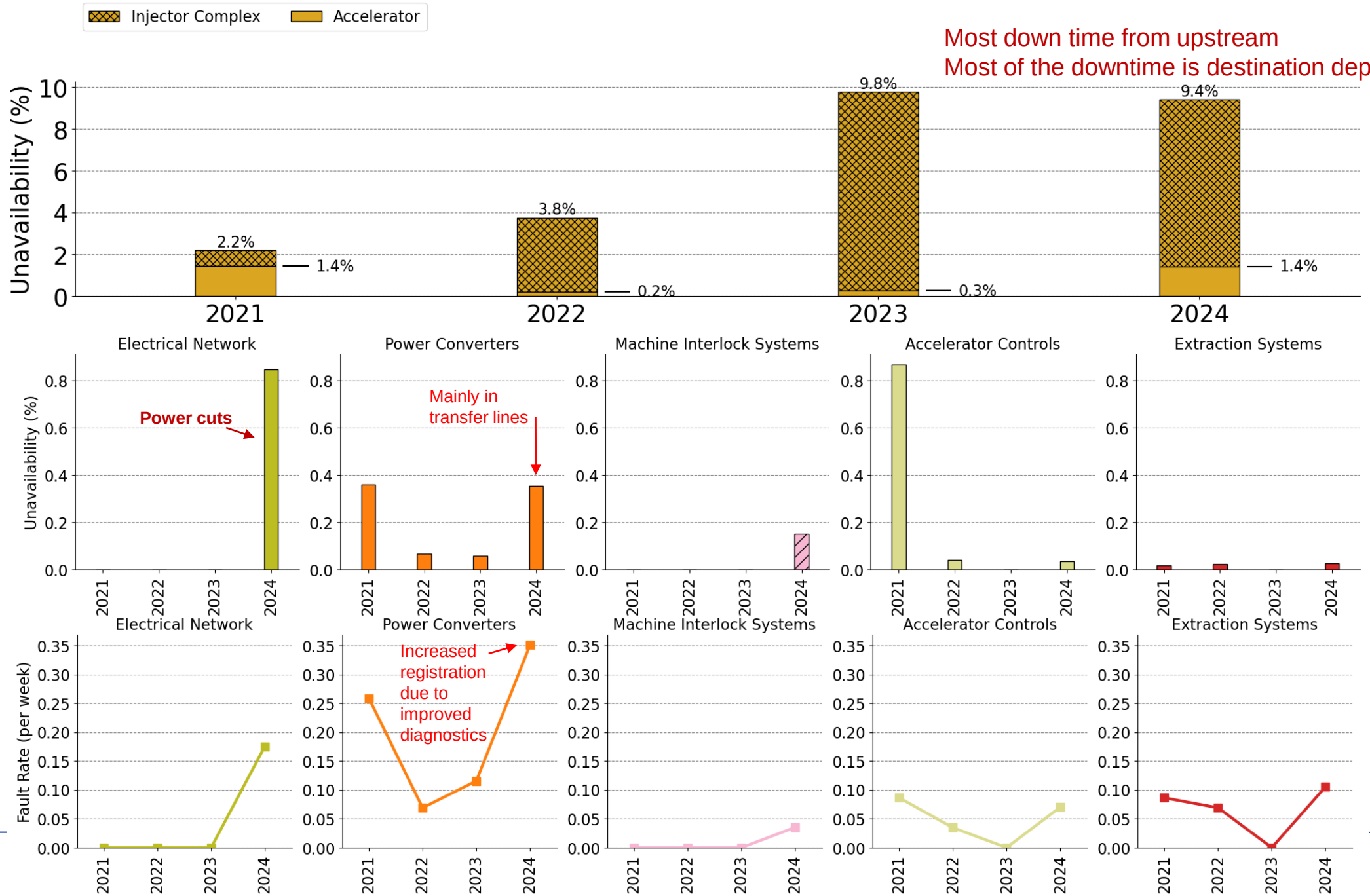
- Spark in Magnetic horn,
- Cooling of the BCCCA (beam current monitor), 4h access needed to refill

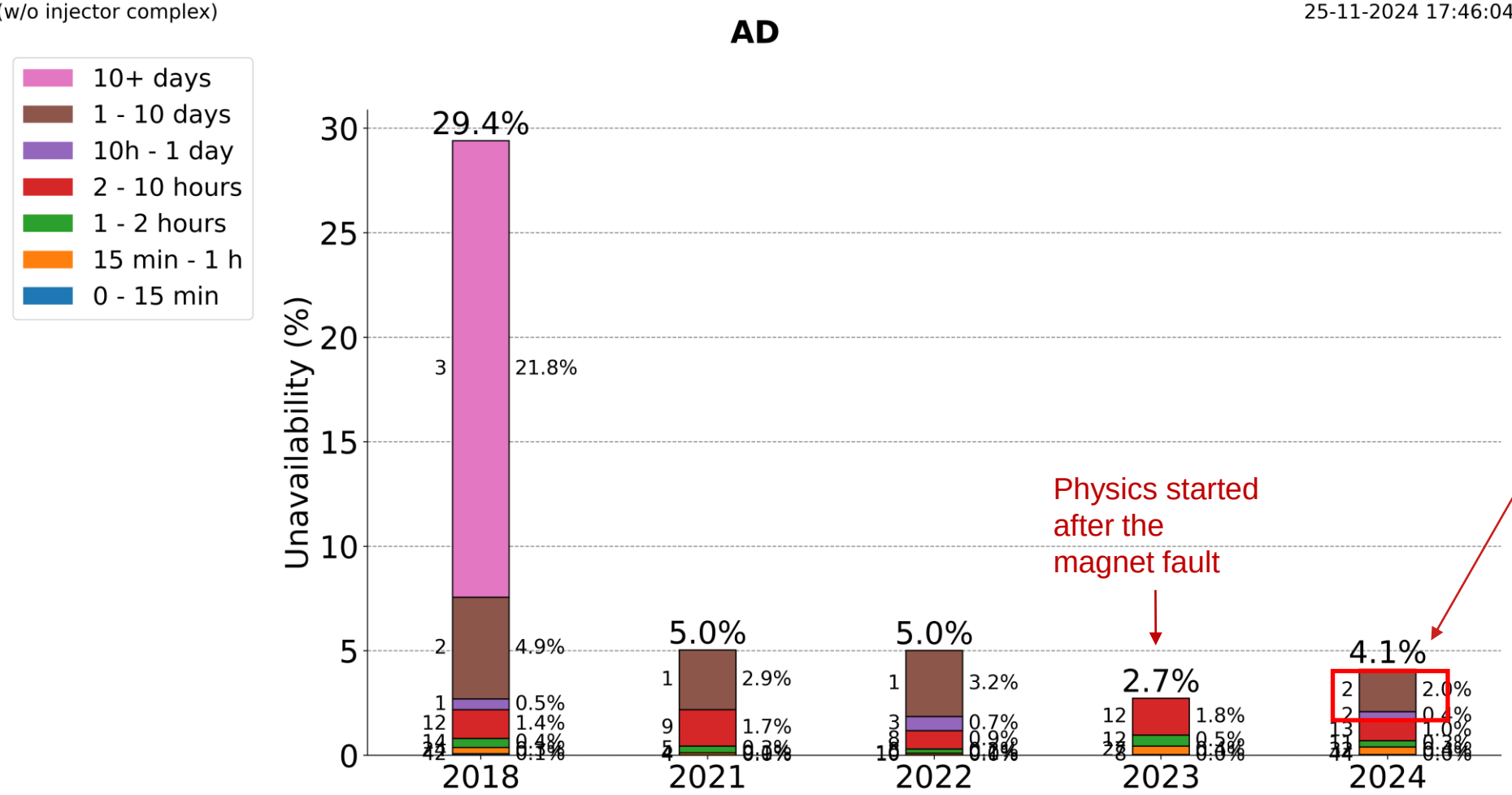
PC & Elec. Net.:

- Increasing number of trips of e-cooler solenoid PC
- Increased number of power cut inducing filament trips → long recovery time
- Still many trips of the main QUAD, but quick recovery compared to last year



ELENA

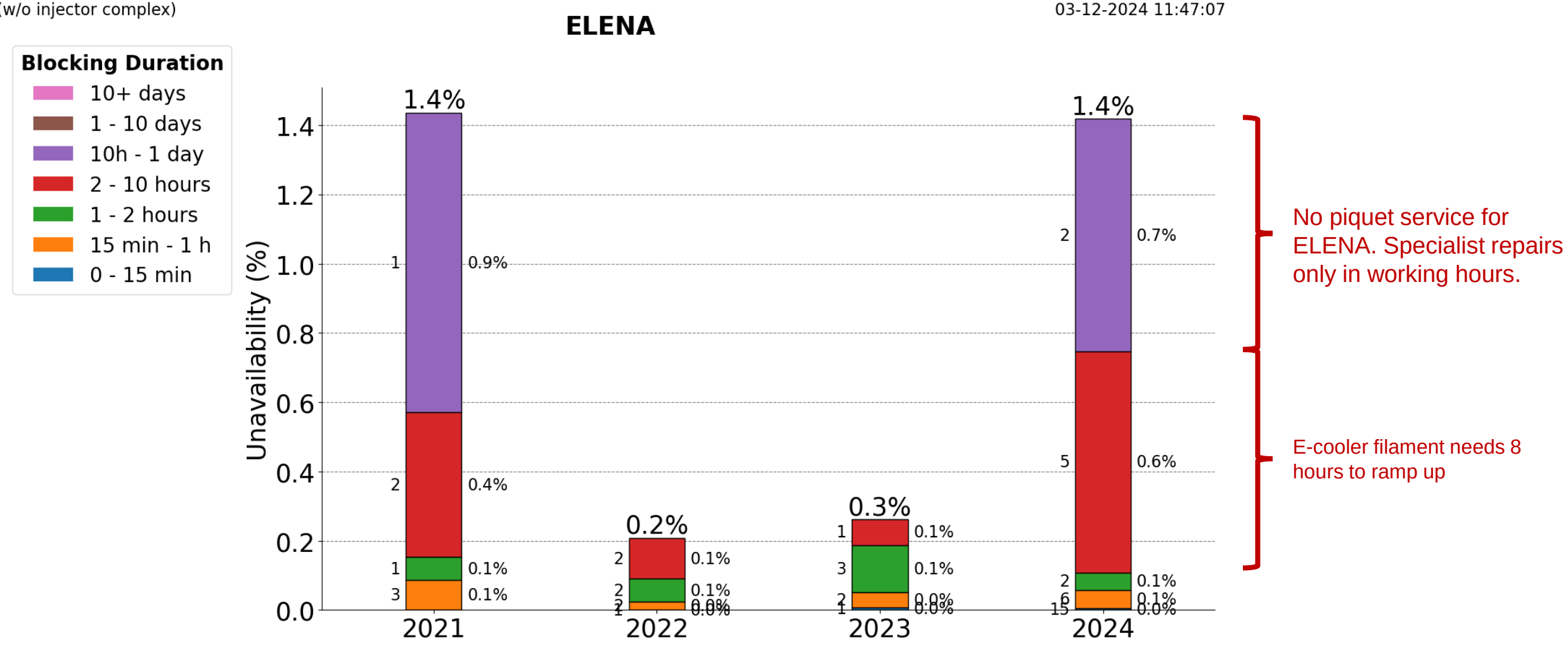

Injector Complex
Accelerator
Most down time from upstream
Most of the downtime is destination dependant
Unavailability (%)
2.2%
1.4%
3.8%
0.2%
9.8%
0.3%
9.4%
1.4%
2021
2022
2023
2024
Electrical Network
Power Converters
Machine Interlock Systems
Accelerator Controls
Extraction Systems
Power cuts
Mainly in transfer lines
Fault Rate (per week)
Increased registration due to improved diagnostics



- **Faults 2-10 h dominated by recovery of e-cooler filament trips**
- **Many trips of AD main quadrupoles as previous years but much faster recovery thanks to the work done during the YETS2023-24**
- **Worrying increase of the number of trips of e-cooler main solenoid power supply with long recovery time**

(w/o injector complex)

03-12-2024 11:47:07



AD/ELENA Conclusions

- **Availability lower than last year, but still quite high (AD 95.8 %, ELENA 98.6 %)**
  - Significant increase of the power cuts
  - Significant increase of solenoid power supply (aging of the equipement)
  - Same HW issues as last year but earlier in the run (magnetic horn and BCCCA)
- **Both machines availability affected by long recovery time (> 8h) in case of e-cooler filament trips**
- **AD:**
  - Improved recovery time after trips of the Main quad
- **ELENA:**
  - Improved diagnostics means OP can anticipate and track
  - Need downtime by destination to have a better tracking of the unavailability for users