For 2023+ Cockpit architectures HARMAN will need:

- Very high endurance and extended TBW budget
- Extended data retention at high temperatures
- Very high density
- Very low latency
- Deterministic media
- 15+ year device life

- High bandwidth and fast startup for fast boot support
- Guaranteed minimum sustained write performance
- Support of extended temperature (105C/125C)
- Stable performance over time, different usage profiles and operating temperature
- SRIOV support!

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SCM STORAGE CLASS MEMORY ARCHITECTURE
HARMAN HIGH-LEVEL REQUIREMENTS

✓ Extended data retention → 15 years+ at temperature >> 95°C Tc
✓ Very high Read/Write speed (DRAM like), symmetric access
✓ Byte-accessible
✓ NO wearing mechanism
✓ BER (Bit Error Rate) → Potential Replacement for DRAM (UBER 10e15)
✓ On die ECC in flight (no added latency in read mode)
✓ Zero power in standby mode
✓ NO refresh needed
✓ Instant-on support
✓ Non-volatile
✓ MLC/TLC/QLC... capable technology
✓ 3D-capable
✓ Scalable (for reference → below 5 nm)
✓ Samples 8/16 Gbits per die and more in 2023+
✓ Cost infrastructure → better (less) than DRAM

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THANK YOU