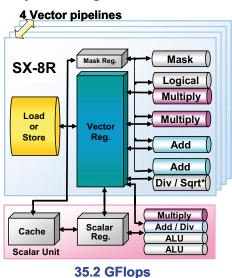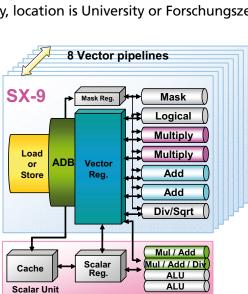# A long continuous history of vector computers keeps on going at SCC KIT (all Flop/s are peek numbers)

- 1983 installation of the Cyper 205 (200 MFlop/s, 32 MByte main memory) at the University Karlsruhe. All vector systems at the University are operated by university staff and jointly used by University and Forschungszentrum
- 1987: VP 50 (138 MFlop/s, 64 MByte main memory) at Forschungszentrum
- 1988 VP400-EX (1.7 GFlop/s, 512 MByte main memory) at University
- 1990: IBM 3090-600/VF at Forschungszentrum (6x133 MFlop/s, 256 MByte shared memory, 512 MByte extended memory, never used for HPC!)
- 1990: S400/10 (2 GFlop/s, 512 MByte main memory) from Fujitsu/Siemens at University, upgrade 1991 on S600/20 (5 GFlops/s, 2 GByte main memory, 2 GByte extended memory)
- 1991: VP400-EX was moved from University to the Forschungszentrum
- 1994: Cray J916 (16x200 MFlop/s, 4 GByte shared memory) at Forschungszentrum
- 1996: VPP300 (16x2.2 GFlops,16 GByte distributed memory). As from now, all vector systems are operated by Forschungszentrum and used from both institutions. The "Virtual Computer Center Karlsruhe (VRZ)" was born.
- 2000: VP5000 (8x9.6 GFlop/s, 80 GByte distributed memory)
- 2004: NEC SX-5 (8x4 GFlop/s , 32 GByte shared memory, project system)
- 2006: NEC SX-8R (8x25 GFlop/s, 256 GByte shared memory), additional node in autumn 2007
- 2008: NEC SX-9 (16x102 GFlop/s, 1 TByte shared memory, location is University or Forschungszentrum, system will be operated by Forschungszentrum)

SX-8R
4 Vector pipelines

Mask Reg. → Mask
Logical
Multiply
Multiply
Load or Store ↔ Vector Reg. → Add
Add
Div / Sqrt*

Scalar Unit: Cache ↔ Scalar Reg. → Multiply / Add / Div / ALU / ALU

35.2 GFlops
2.2 GHz * 4 sets * (2 add + 2 mult)

SX-9
8 Vector pipelines

Mask Reg. → Mask
Logical
Multiply
Multiply
Load or Store ↔ ADB ↔ Vector Reg. → Add
Add
Div/Sqrt

Scalar Unit: Cache ↔ Scalar Reg. → Mul / Add / Mul / Add / Div / ALU / ALU

102.4 GFlops
3.2 GHz * 8 sets * (2 add + 2 mult)