VLT End-to-End
Changing the way ground based astronomy is done

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The Riccardo Challenge

Space is a great place

- **Stable configuration** - no tinkering
- **Stable environment** - calibratable
- **Predictable constraints** - schedulable
- **Consistent output** - data products
- What will it take to achieve this on the ground?
Riccardo’s Courage

Changes to the way ground based astronomers work

- **Stable configuration** - ESO controlled facility instruments
- **Stable environment** - Spend 10% of (precious) telescope time on a calibration plan
- **Predictable constraints** - defeating the weather by active scheduling at the individual observation level - you don’t really need to be there …
- **Consistent output** - data and data products - quality controlled and delivered and archived for future use
The F word ..

Factory or Facility?
Riccardo’s Trust
Riccardo’s’s Trust

Are you ready for Data Flow?

Terabyte Ballet
VLT Control System and Data Flow System
Changing view of observatories

NTT, VLT, ALMA, Gemini, CFH, Subaru, ELT, SKA,„„
Outcomes

- “Shutter Open” efficiencies > 80%
- Delivering projects needing 10’s-100’s hours of seeing << 1”
- 25% of publications from archive data
- new community of users - non-PIs using data products
- 80% demand for Service Mode
“Always make a decision - with a bit of luck you’ll be right half the time ..”

“Early to bed .. Early to rise ..Work hard .. and advertise....”