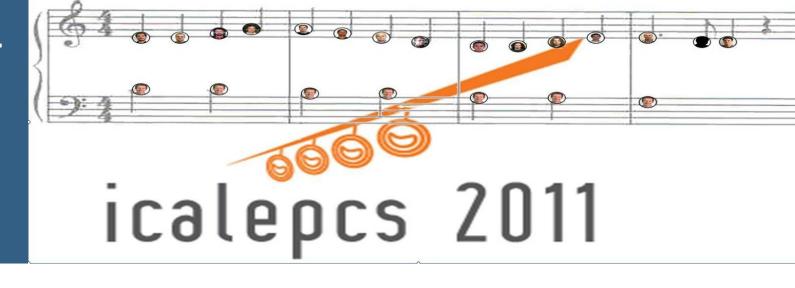
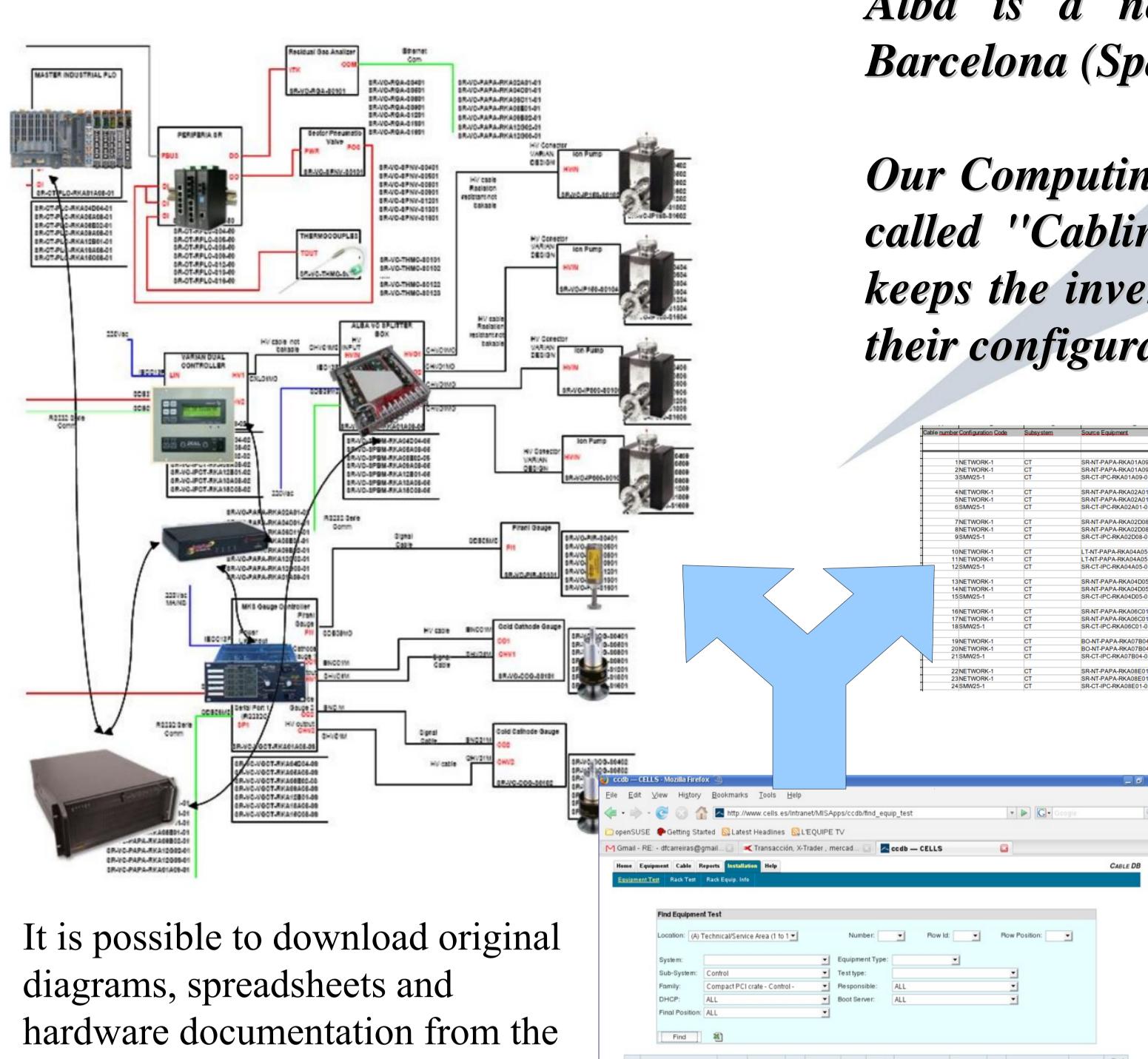
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## A Bottom-up Approach to Automatically Configured Tango Control Systems.





Alba is a new 3GeV Synchrotron LightSource near Barcelona (Spain).

Our Computing division maintains a central repository, so called "Cabling and Controls database" (CCDB), which keeps the inventory of equipment, cables, connections and their configuration and technical specifications..

> Modification or insertion of new cables in the database is done using spreadsheet files, that contain source and destination equipment-terminal pairs and cable types.

The CCDB database becomes available to the control system using the python API, providing methods to search equipments and get their connections, configuration and network information.

CCDB web client.

This translation allows to rebuild the whole control architecture from the cabling.

Using the python API and PyTango, a Tango database entry is generated for each device and every configuration value. Furthermore, every Tango process is assigned to a particular Industrial PC host from the CCDB

SR01/VC/VGCT-01A08-0 1.00E-012 SR-VC-CCG-S01-01 9 VacuumController/SR01 VC CCG-ivc0101-01 VacuumGa Class Alias Property 🧗 TANGO Manager - Release 5.2.0 🕒 Thu l 🔔 🗖 File View Command Tools Helm P ● VC ivc0401 (LT/SR04/BO01-EPS) Control 12 Controlled Servers on ivc0401 ivc1001 ivc1101 VacuumController/LT\_VC\_GAUGES ivc1301 ivc1401 - (B) IP-13 ivc1501 Refresh ivc1601 Level 8 VacuumController/SR04\_VC\_PUMPS PyStateComposer/SR04\_VC\_ALL Dismiss

the cabling database is used CablingBrowser <@ctdevelsa> SR04/VC/IPCT-04D04-01 Cabling Tree to extend the displays of the SR04/VC/IPCT-04D04-01 SR04/VC/SPBX-04D04-01 control system and allocate equipments in generic sr04/vc/ip-01/controller sr04/vc/ip-01/pressure (SR04-IP-01-Pressure) sr04/vc/ip-01/status browsers, providing a lot of SR04/VC/IP-03 ⊟ HVO3 extra information to users. SR04/VC/IP-06 SR04/VC/IP-07 SR04/VC/IP-08 BL24/VC/VGCT-06 ChannelState VcGauges(mbar)

The information available in

We have now an automated way to create devices and load new values to properties: reducing the time needed to deploy generic systems in beamlines or adding new devices to an already operating machine.

