

# Turnkey Control System

## Service Description

### Introduction



standard accelerator devices together with Cosylab's tailor made integration and adaptation efforts; all together for a fixed price.

Built on our competence and experience from a multitude of accelerator projects, Cosylab's Solution exactly provides the external talent that takes the budget and schedule risks out of the control system. Your critical talent can remain focused on the physics and engineering aspects of your project.

<sup>1</sup> [http://www.mckinsey.com/insights/business\\_technology/delivering\\_large-scale\\_it\\_projects\\_on\\_time\\_on\\_budget\\_and\\_on\\_value](http://www.mckinsey.com/insights/business_technology/delivering_large-scale_it_projects_on_time_on_budget_and_on_value)

"Half of all large IT projects massively overblow their budget" (McKinsey&Co, 2012)<sup>1</sup>.

This finding, consistent across industries, also threatens big physics control system integration projects.

As a key remedy McKinsey&Co proposes: "mastering technology and project content by securing critical internal and external talent".

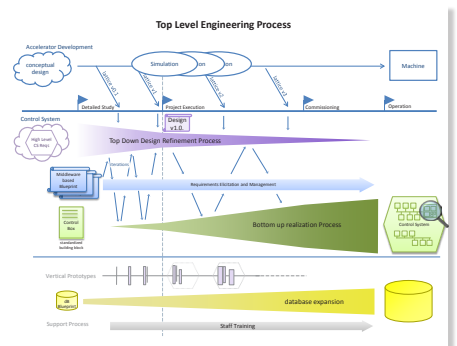
Cosylab is offering this key remedy in the form of a "turn-key system", which combines standard "blueprint" building blocks for the control of

### Why Turnkey?

With Cosylab's Turnkey solution you reuse successes from our previous projects compared to building it all from the ground up, such as Engineering Blueprints for standard control system parts:

- Efficient Development and Management processes that have proven to work.
- An Expert Team that can accurately plan and execute from experience while collecting and incorporating your specific requirements, even as they change in the course of the project.
- Last but not least, you don't have to worry about the control system at all - not even about staffing for it!

Ask for our white paper "Building from Blueprints" for an in-depth description.



### Why Cosylab?

1. We know how large scientific labs work and we know how accelerators work. Engaging us tomorrow means we hit the ground running and start working right away.
2. Turnkey projects are of a bigger scale and require a complete team of experts, which only Cosylab can provide: there have been several instances when we have engaged more than 20 engineers and developers in a single project..
3. Access to talent: We employ nearly 100 meticulously recruited and trained engineers and developers and access a large pool of top students to support our future growth. We staff your project with only the best, also at the peak-load, because we only hire the best ;-)
4. Right quality of deliverables at an unbeatable price. Significantly less expensive than an in-house solution if you count the true cost of staff.

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## Turnkey Control System (Continued from front side)

### Service Description

#### ebg MedAustron example

#### Control System for medical synchrotron accelerator made by Cosylab

**Project Type:** MedAustron is an ion beam therapy particle accelerator, being constructed in Austria. It specializes in cancer treatment with ions, research and development of this new therapy, and non-clinical research with ion and proton radiation.

**Scope of work:** main timing system, power converter control, front-end controller, LabView RT communication framework, injector and synchrotron LLRF integration, FPGA programming, LabView RealTime drivers, configuration management, C# development; special emphasis on system engineering, requirements, verification & validation and documentation due to the medical nature of the project.

Cosylab provided a performance guarantee for response times of the full CS under real load.



#### Frequently Asked Questions

#### What does the word Turnkey exactly mean in this context?

Cosylab takes the responsibility for the performance and usability of the Control System so that you don't have to worry about it. The essential design is provided by us; the integration work is done by our developers and engineers; they hand over a working system, tested and approved for commissioning the beam.

#### Can a Turnkey Control System be sufficiently tailored for my specific project?

The short answer is yes! Cosylab knows how different accelerators work and can thus understand what your specific needs are. Depending on your budget, you can get bottom-line functionality at the most economic cost up to full functionality with a high level of customization. Together with you, we discuss which package is the best starting point for your project and then tailor it further.

#### Can requirements change?

Of course! A contractor that understands scientific projects knows that change is part of the development. And we know how to minimize its impact on the project. At Cosylab we built our engineering process around this crucial fact.

#### How can our people take over the control system?

Smoothly. We work in close cooperation with in-house people during development so that they can later independently maintain and upgrade our work. If this is not possible, we also offer a longterm service level agreement with Cosylab on-site personnel.

#### How to make it happen

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Simply by contacting us; either by e-mail (see left) or by contacting someone you already know at Cosylab.

You can provide us with any form of specifications you already have, or tell us the wish-list of improvements for your current systems. If we need to know more before we can quote a price, we typically propose one or several site visits.

We quote all effort and expenses upfront and invoice after acceptance of deliverables. "No cure, no pay"!