

Piotr Goryl on behalf of CSiT group and whole the
Solaris Team
Kraków, 19-05-2014
Solaris



JAGIELLONIAN
UNIVERSITY
IN KRAKOW

SOLARIS

NATIONAL SYNCHROTRON
RADIATION CENTRE



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND



Before



Previous meeting



May 2014 - shifting to new building



Experimental Hall

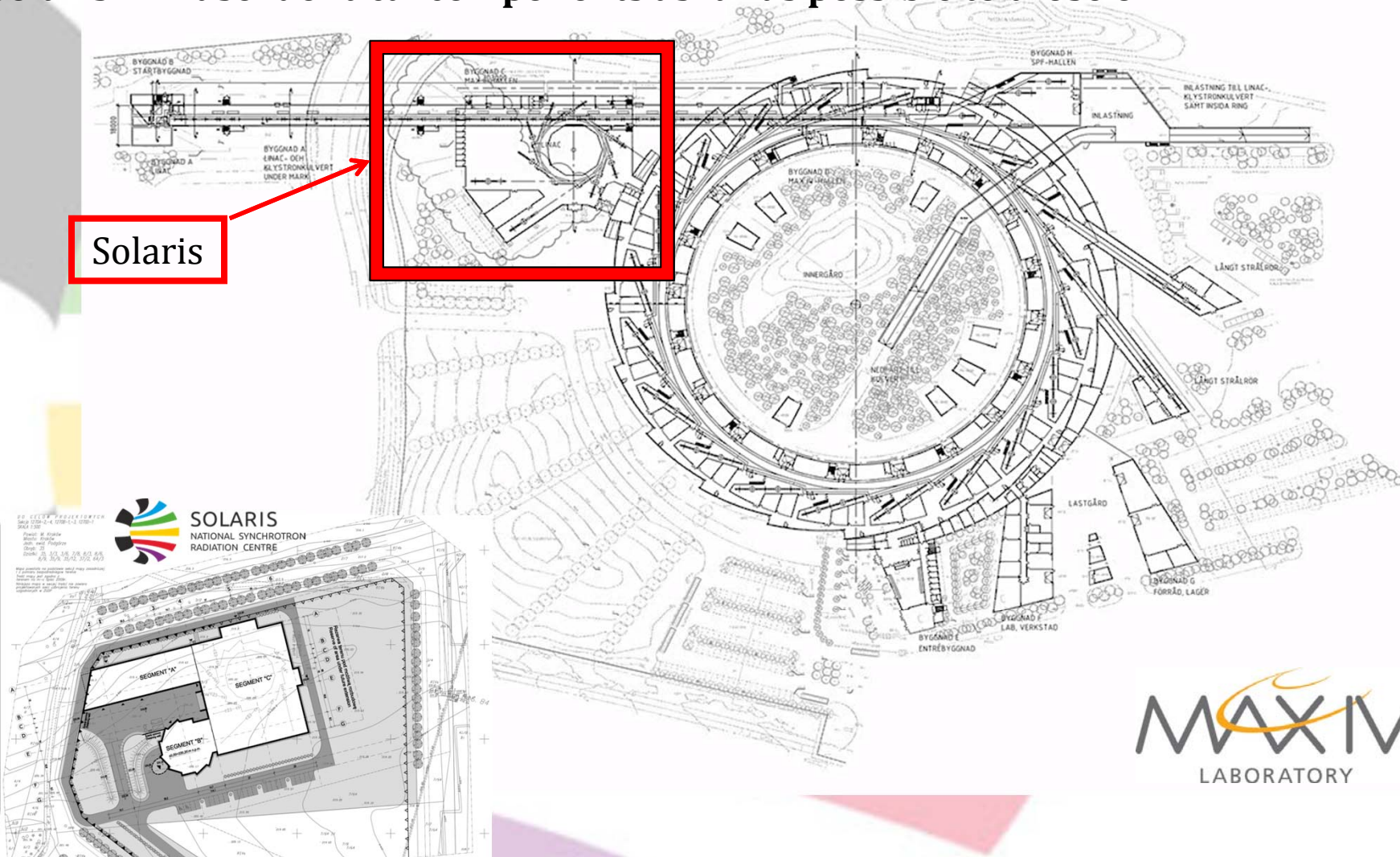


Control Room



Solaris will be a replica of the 1.5 GeV MAX IV Storage Ring and parts of the linac injector.

Solaris will use identical components as far as possible to those of MAX IV.



SOLARIS @ Jagiellonian University new Campus:
ul. Czerwone Maki 98, Kraków

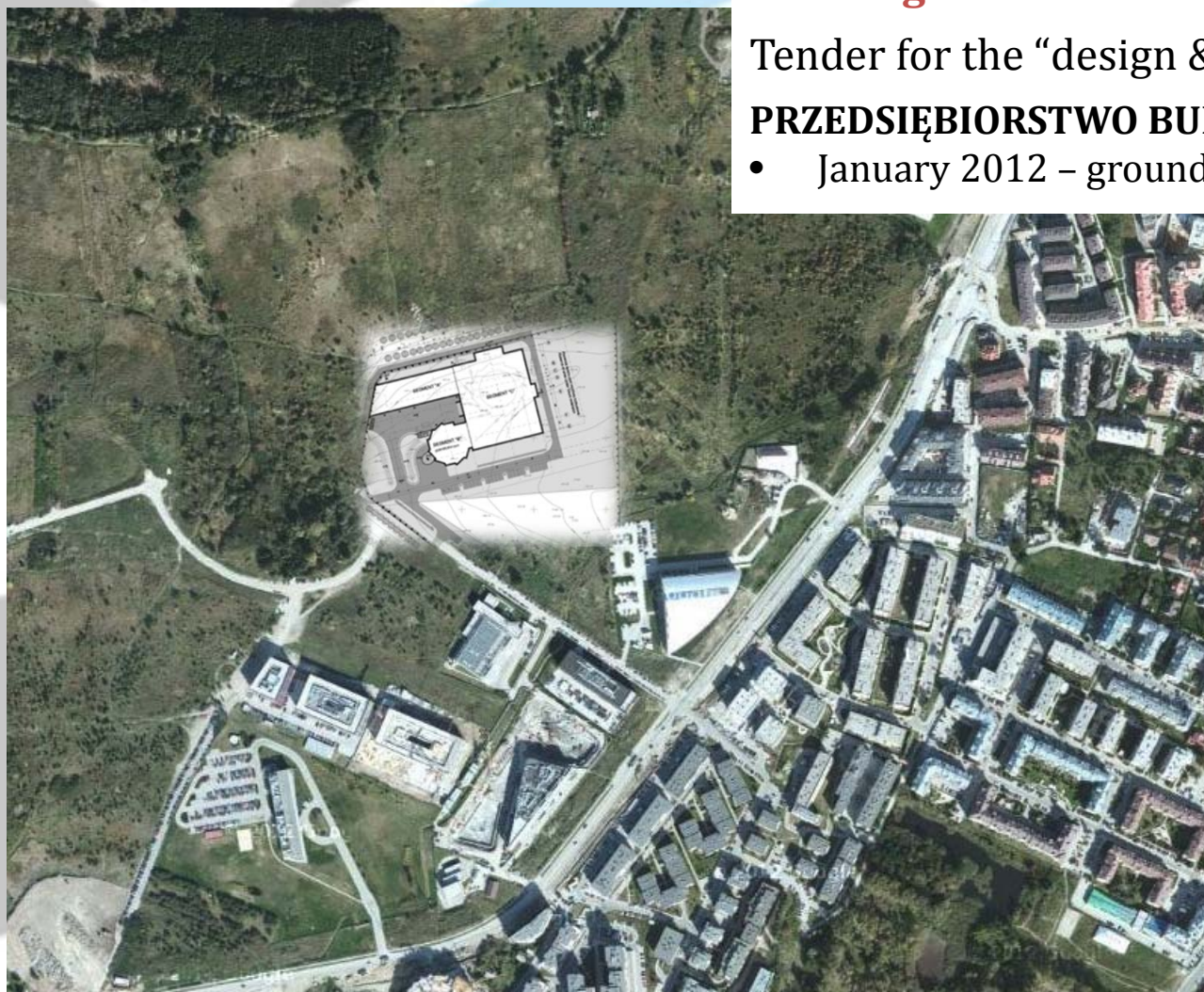
50°01'21" N:19°53'37" E

Building

Tender for the “design & build” of building given to:

PRZEDSIĘBIORSTWO BUDOWLANO ŁĘGPRZEM Sp. z o.o

- January 2012 – ground was broken



Solaris people involved in the CS related work

Team is growing 😊

- **Krzysztof, Konrad**
 - Machine ProtectionSystem
 - Personal Safety System
- **Michal, Piotr K.**
 - IT infrastructure and services
 - Help-desk
- **Lukasz**
 - Control system software
 - Outsourced Tango software development coordination
 - Motion control
- **Julia** (PhD. Student in IT, 30% of time)
 - General software development
 - Database applications
 - Students' projects coordination
- **Ada** (accelerator physicist)
 - Physics scripts
- **Fryderyk** (diagnostic instrumentation)
 - Electronic equipment
 - Timing system
 - Physics scripts
- **Arek** (hired within the PL-Grid Plus project, 50% of time)
 - Virtual accelerator
- **Tadeusz** (hired within the PL-Grid Plus project)
 - SynchroGrid coordination
 - HPC services
- **Piotr G.**
 - Coordination
 - Virtual accelerator

Tasks outsourced to:

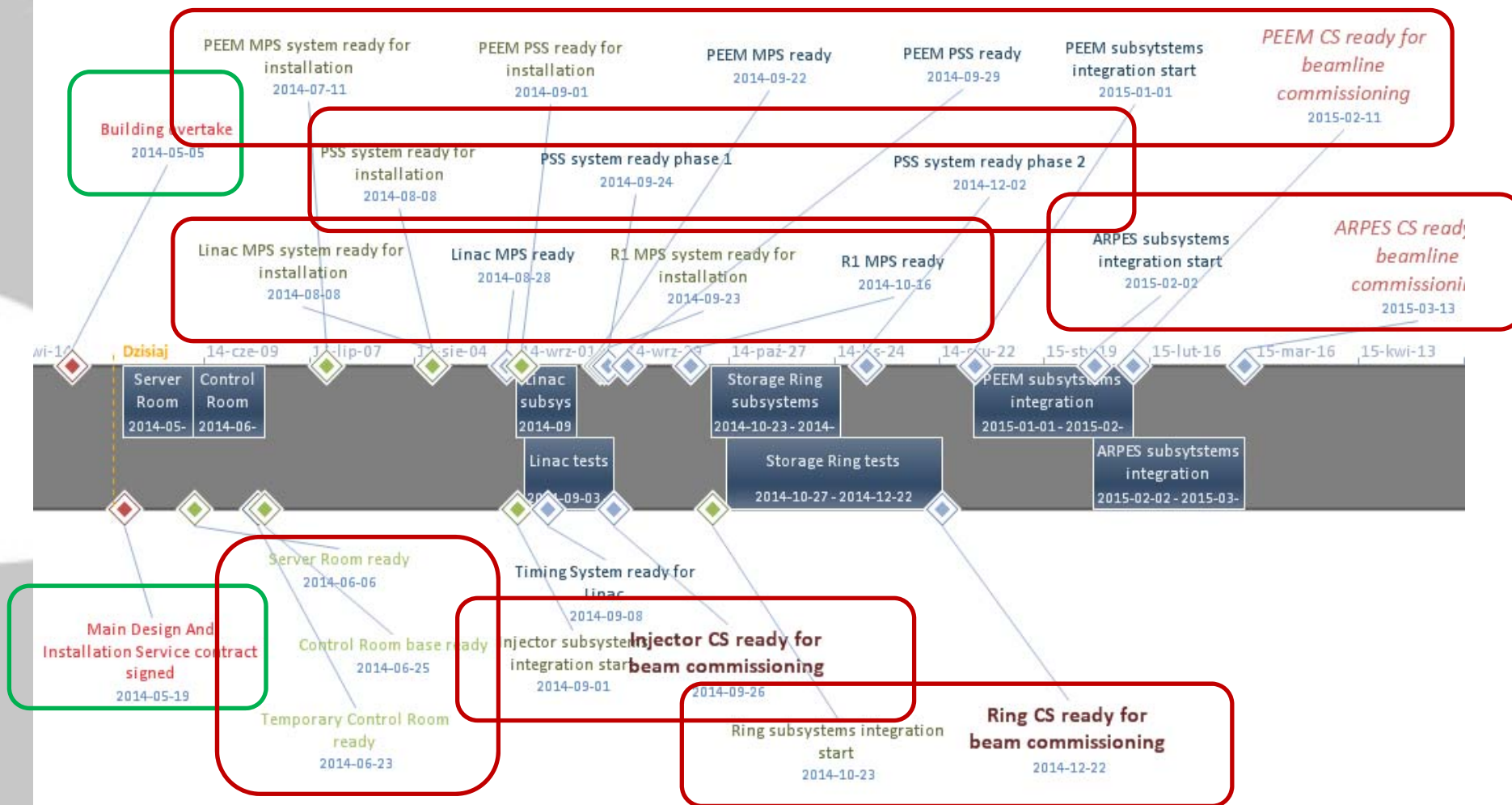
- **MAX-IV**
 - Requirements gathering
 - General expertise, training
 - System design
 - Device servers and part of physics scripts development
- **Elettra**
 - Expert support
 - PSS concept and software development
 - Ramping software development
- **Cosylab**
 - Control system integration
 - GUI and supplementary tango software development (to be optionally extended)
 - Timing system design and delivery
- **Installation company** (procurement about to award)
 - PLC systems executive design, fabrication and installation
 - Signals and IT cabling



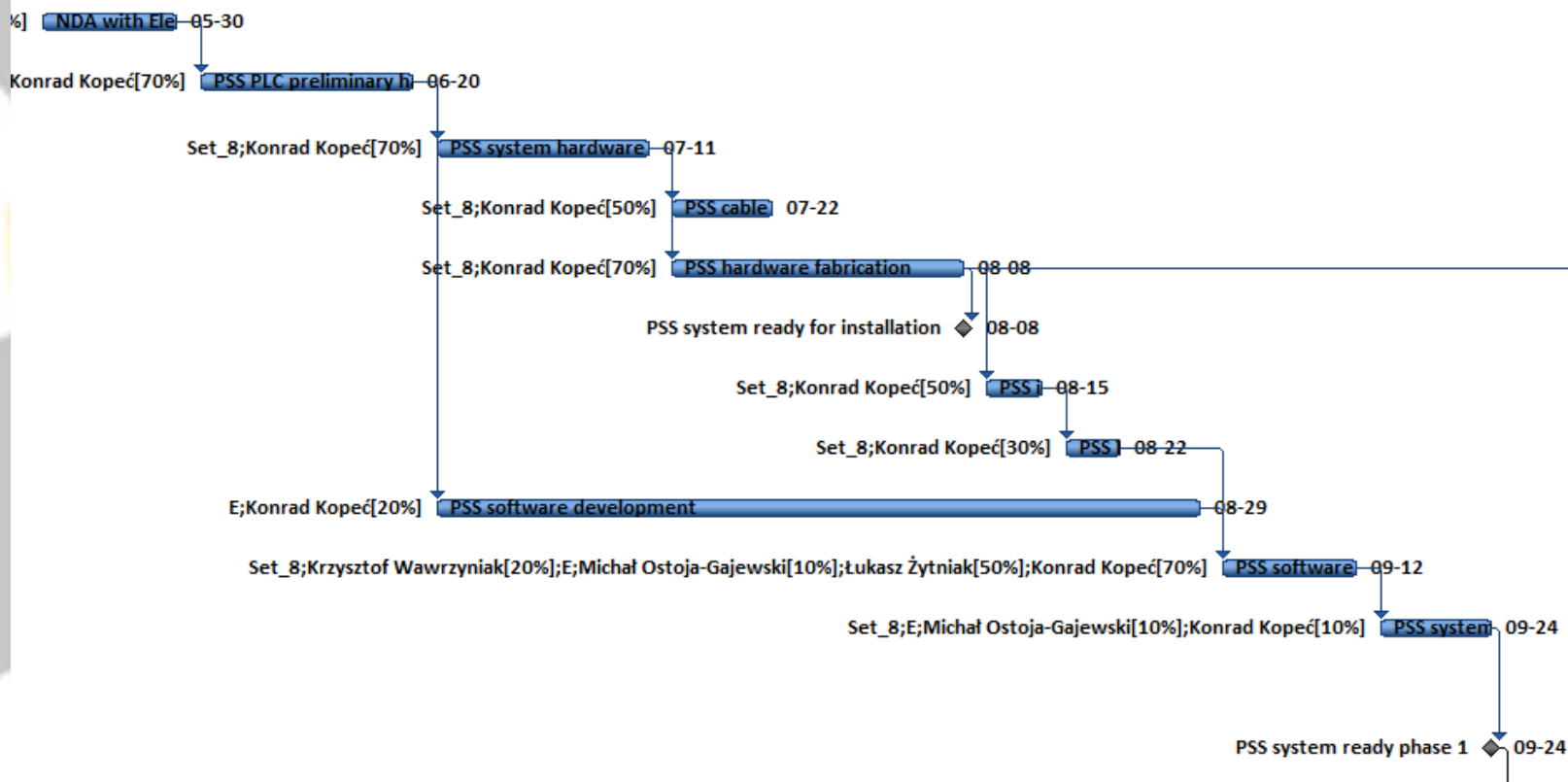
**Outsourcing minimize risk related to lack of expertise
by moving it to operation period due to small team!**

In mitigation with documentation provided by the Cosylab and students involvements

What and When



- Long term plan has been prepared. Includes all identified tasks and milestones. CS schedule synchronized with a master plan (general installation plan) basing on milestones.
- **Agility**
 - Two weeks sprint planning has been adopted (based on schedule, real progress and unplanned activities)
 - Tracking with Redmine
 - Long term plan periodically updated – 3 month stages and upon main events
- The critical has path been pointed from the master plan- PSS



Installation service contract

- **Awarding of contact in progress**
- **Contracts includes among others**
 - **Machine water and air plumbing**
 - **Power cabling**
 - **Low current cabling**
 - **IT cabling**
 - **PLC systems**
 - Machine Protection System
 - Personal Safety System
- **Kick-off meetings**
 - **Working group and roles established**
 - **Schedule updated**
 - **Works already started**

Preliminary design

•BOM

Executive design

Components ordering

Fabrication and
Installation

Tests

- **Packages included in the current contract (minimalistic)**



- **Base software**

- Libraries: Taurus, Lima
- **Tango core** is in responsibility of us (Solaris)

- **Device Servers**

- Developed by MAX-IV
- Developed by Vendors

- **Basic GUIs**

- Access to all devices
- Engineering screens for subsystems
- Menu

- **Physics:** only device server for beam properties

- **Timing system delivery**

Acquiring

- Source code
- Documentation

Tests

- Adaptation
- Compilation
- Testing with hardware
- Test report

Software at Solaris

- Placing on GIT
- Startup
- Configuration

CS integration and development service

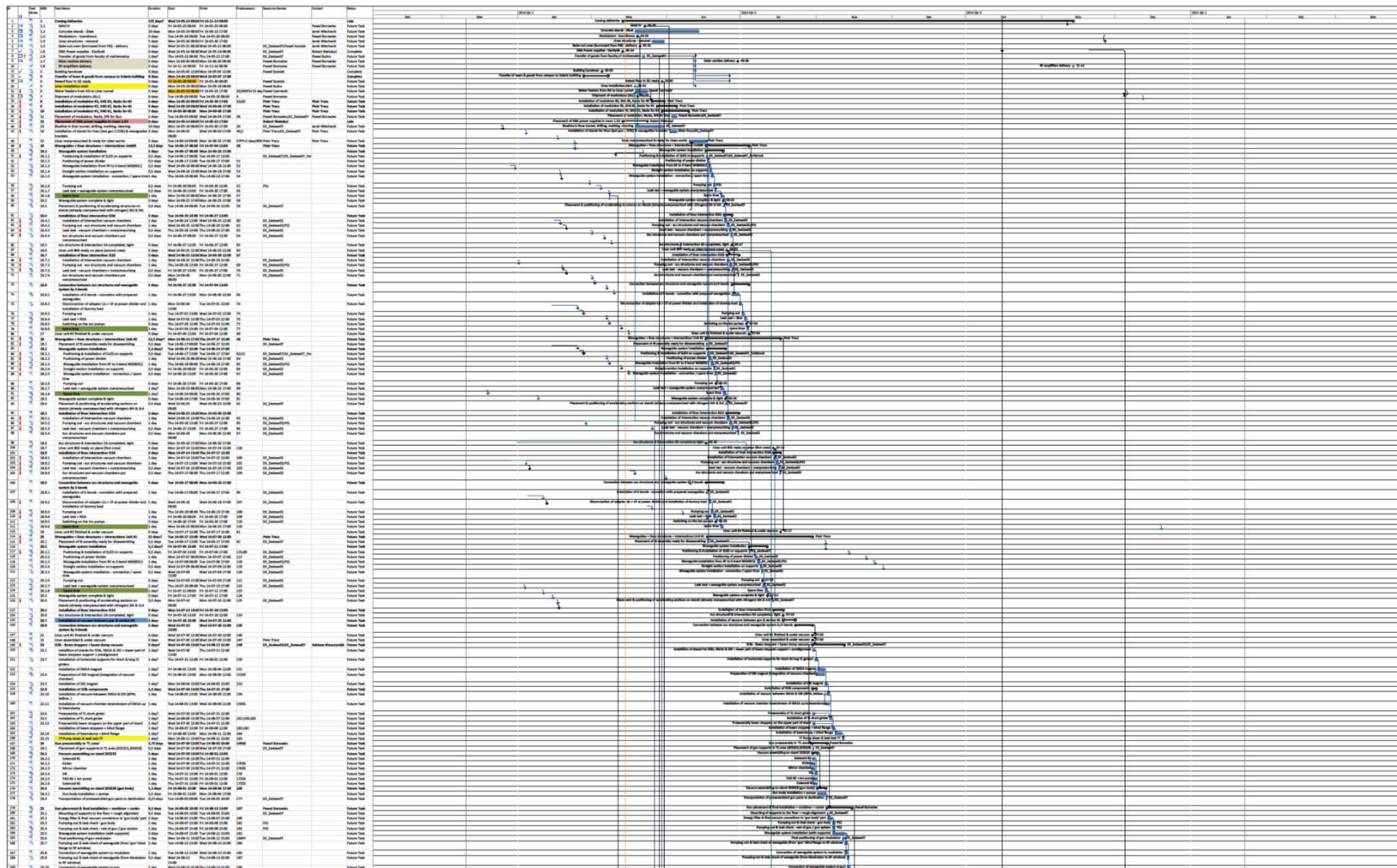
- **Realization**
 - Monthly deliveries
 - Concrete software or specification
 - Reports
 - Be-weekly skype meetings: Mondays, 14:00
 - Progress tracking with Redmine
 - Travels to Solaris or MAX-IV upon identified need and scheduled activities
- **Extension options** (decision to be taken, waiting for clarifying budget)
 - Support in takeover of software from MAX-IV (3 complete device servers to be developed)
 - Timing service extension - commissioning support
 - Controls Infrastructure (Tango Services) - additional services
 - Support in Physics software adaptations (6 months of on-site commissioning support)
 - Control Room Applications services- additional development, 20 men-weeks, agile
 - CS related consulting (operational consultations and expertise)

Summary – current and future activities

- **Building overtake activities**
 - IT infrastructure start-up
 - Bug reporting/solving
- **Final design of MPS and PSS systems**
- **Final design of the Timing System**
- **Software tests by Cosylab**
- **Development**
 - GUI application - Cosylab
 - Missing device servers - Cosylab
 - Synoptic application – on going
 - High level scripts – on going
 - Supporting applications
- **Procurements and deliveries**
 - IcePAP (motion controllers) delivery
 - RF and general signal acquisition instrumentation
 - Rack cabinets deliveries
 - Rockwell PLC hardware delivery
 - CS integration service extension
 - Mobile control room (laptops) procurement
 - Supplementary materials: interface converters, power supplies...
- **Students involvements**



Components Installation





Thank You:



Special credits to Darren Spruce and the whole MAX-IV KITS group

References:

- www.synchrotron.pl
- www.tango-controls.org



INNOWACYJNA
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ROZWOJU REGIONALNEGO



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