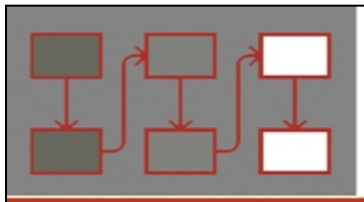

PLEASE2013

4th International Workshop on Product LinE Approaches in Software Engineering, May 20, San Francisco, California
held in conjunction with the 35th International Conference on Software Engineering (ICSE 2013)

Variability Support for Variability-Rich Software Ecosystems

Klaus Schmid

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Contact Profile

- **Interests:**
  - Ecosystems / Large-Scale PLE
  - DSPL(Meta-Variability in General)
- **Objectives / Looking for**
  - Inputs / Challenges (wrt. current status of work)
  - Disseminate ideas / concepts in EASy-Producer
  - Success Criteria:
    - Amount of Ideas / Questions
    - New Contacts

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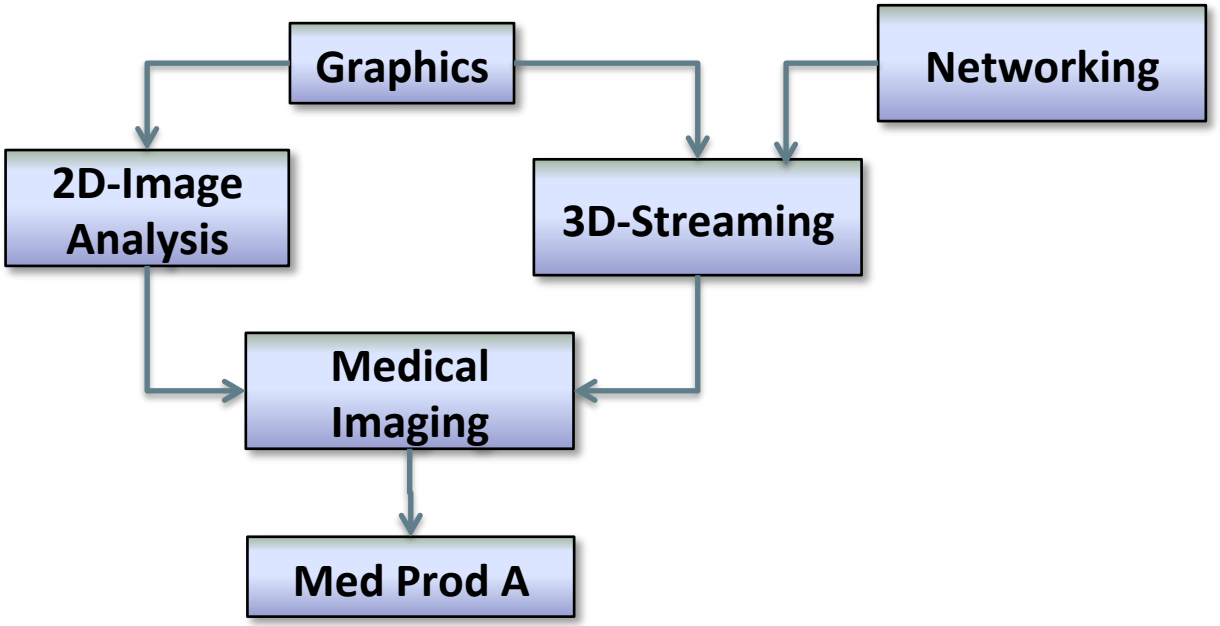
Product Line

- Solution papers: *what is it good for..*
- EASy-Producer provides support for
  - Large-Scale product lines
  - Hierarchical PLE, Multistage Derivation, Composition of Product Lines
  - Individual Governance of Infrastructure and Derived Instance (Ecosystems)
  - Arbitrary sets of individual instantiators (no prescription of derivation techniques)

The Problem

- Networks of product lines in a complex organisation



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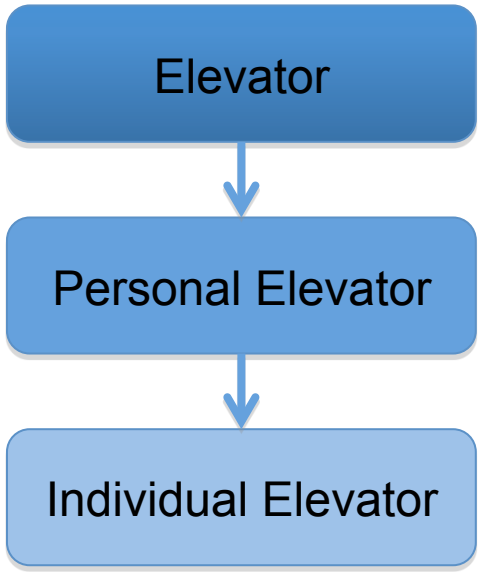
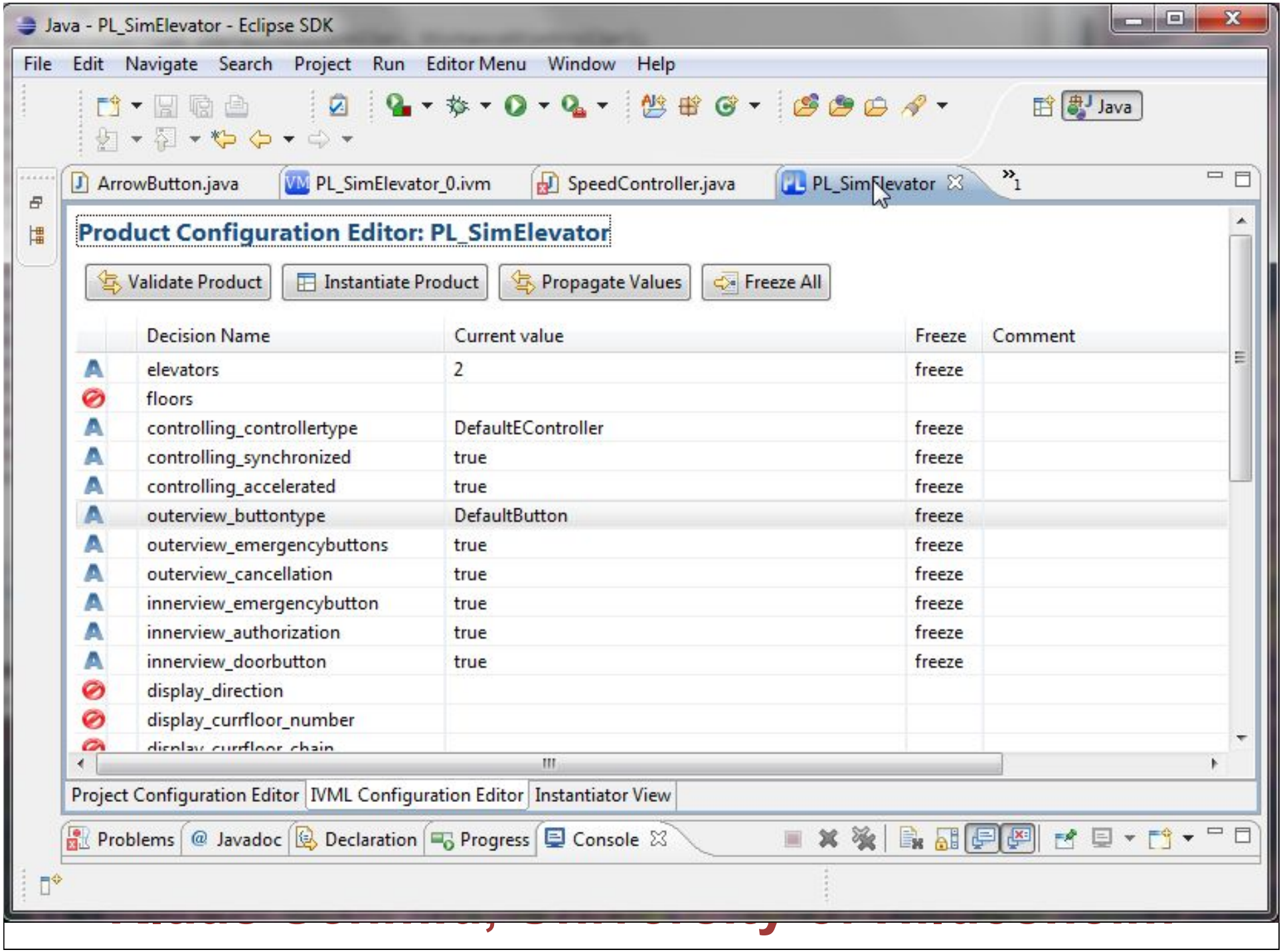
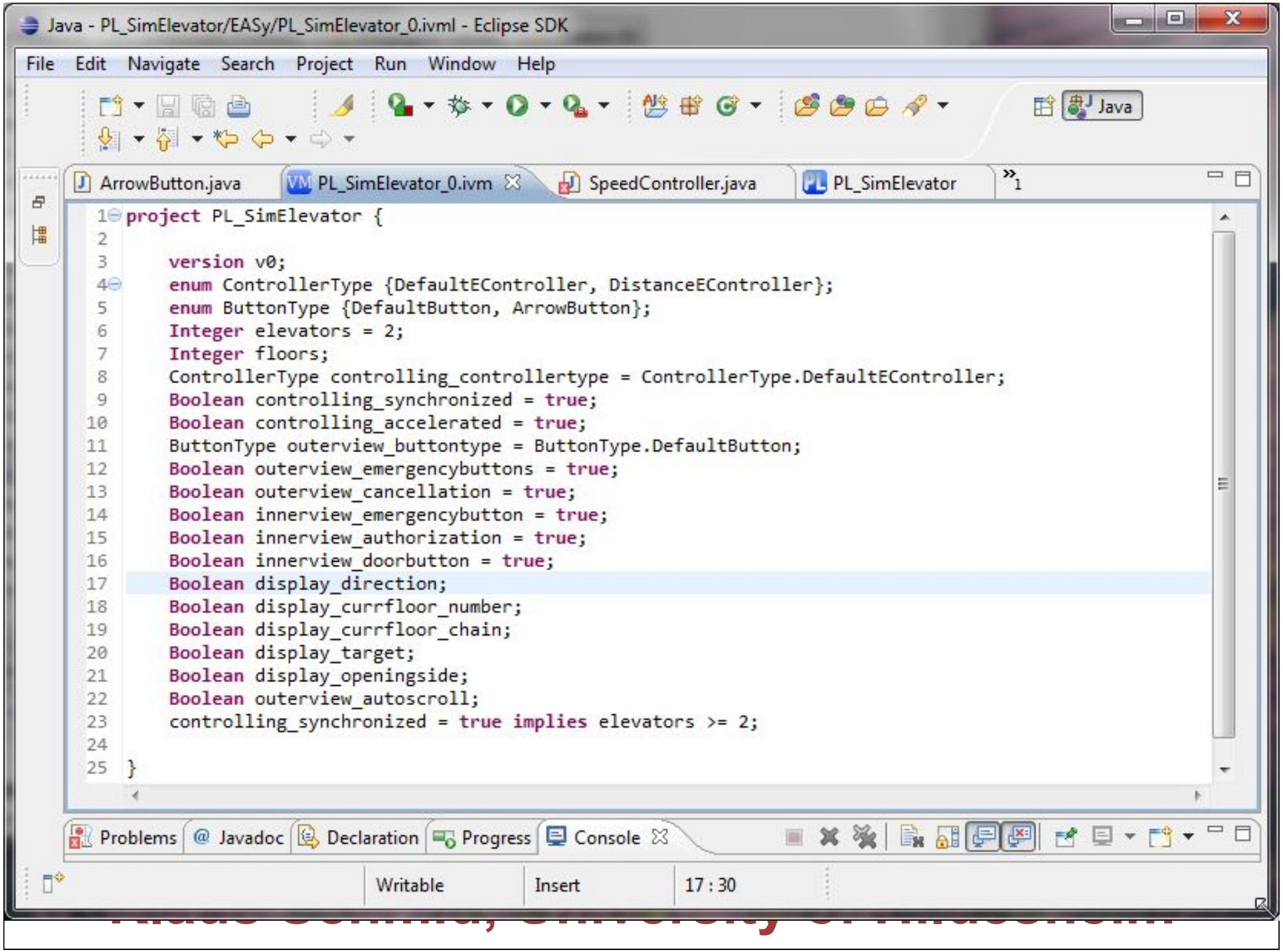
Current Solution

- Industrial case studies: Siemens, Bosch, ..
- *Reference example: elevator*




Java - PL_SimElevator - Eclipse SDK
File Edit Navigate Search Project Run Editor Menu Window Help
Java
ArrowButton.java
PL_SimElevator_0.ivm
SpeedController.java
PL_SimElevator
Product Configuration Editor: PL_SimElevator
Validate Product
Instantiate Product
Propagate Values
Freeze All
Decision Name
Current value
Freeze
Comment
elevators 2 freeze
floors
controlling_controllertype DefaultEController freeze
controlling_synchronized true freeze
controlling_accelerated true freeze
outerview_buttontype DefaultButton freeze
outerview_emergencybuttons true freeze
outerview_cancellation true freeze
innerview_emergencybutton true freeze
innerview_authorization true freeze
innerview_doorbutton true freeze
display_direction
display_currfloor_number
Project Configuration Editor
IVML Configuration Editor
Instantiator View
Problems
Javadoc
Declaration
Progress
Console


Java - PL_SimElevator/EASy/PL_SimElevator_0.ivml - Eclipse SDK
File Edit Navigate Search Project Run Window Help
Java
ArrowButton.java
PL_SimElevator_0.ivm
SpeedController.java
PL_SimElevator
project PL_SimElevator {
version v0;
enum ControllerType {DefaultEController, DistanceEController};
enum ButtonType {DefaultButton, ArrowButton};
Integer elevators = 2;
Integer floors;
ControllerType controlling_controllertype = ControllerType.DefaultEController;
Boolean controlling_synchronized = true;
Boolean controlling_accelerated = true;
ButtonType outerview_buttontype = ButtonType.DefaultButton;
Boolean outerview_emergencybuttons = true;
Boolean outerview_cancellation = true;
Boolean innerview_emergencybutton = true;
Boolean innerview_authorization = true;
Boolean innerview_doorbutton = true;
Boolean display_direction;
Boolean display_currfloor_number;
Boolean display_currfloor_chain;
Boolean display_target;
Boolean display_openingside;
Boolean outerview_autoscroll;
controlling_synchronized = true implies elevators >= 2;
}
Problems
Javadoc
Declaration
Progress
Console
Writable
Insert
17 : 30

Why is it interesting?

- Native ecosystem support (for variability-rich ecosystems)
- Integration of Infrastructure & Product = variability-rich projects
- Simultaneous use of several concepts:
  - Composition (multi-product lines)
  - Multistaged derivation
  - Support of multiple derivation methods
- Combination of interactive and textual variability support

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Discussion

- What would be open challenges that are not yet addressed?
- Would this help solve your problem?
- Interests in cooperating?

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