

# KIELER Actor Oriented Modeling

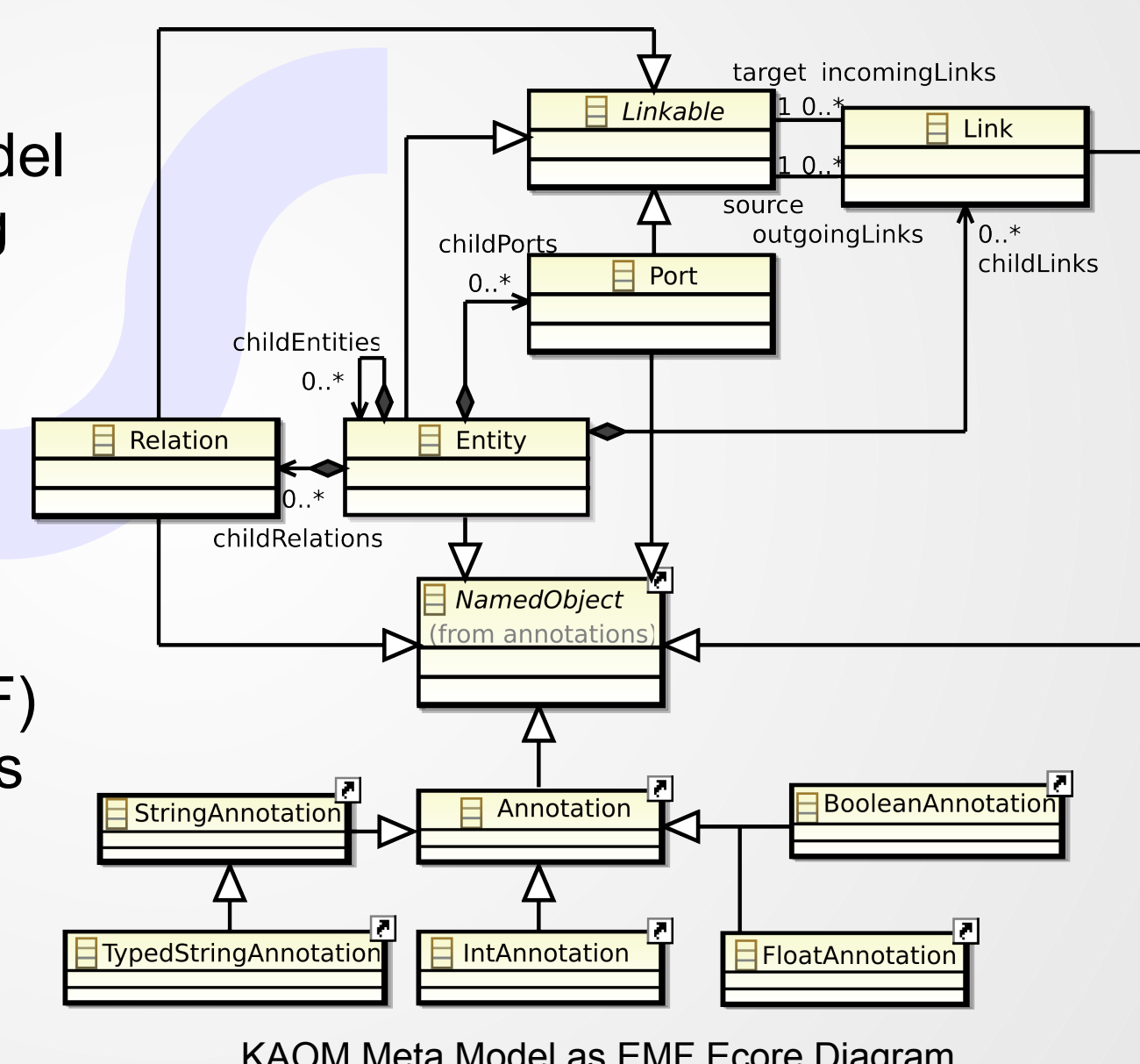
**Kiel Integrated Environment for Layout**

*Eclipse Rich Client*

## Meta Modeling

KAOM – KIELER Actor Oriented Modeling

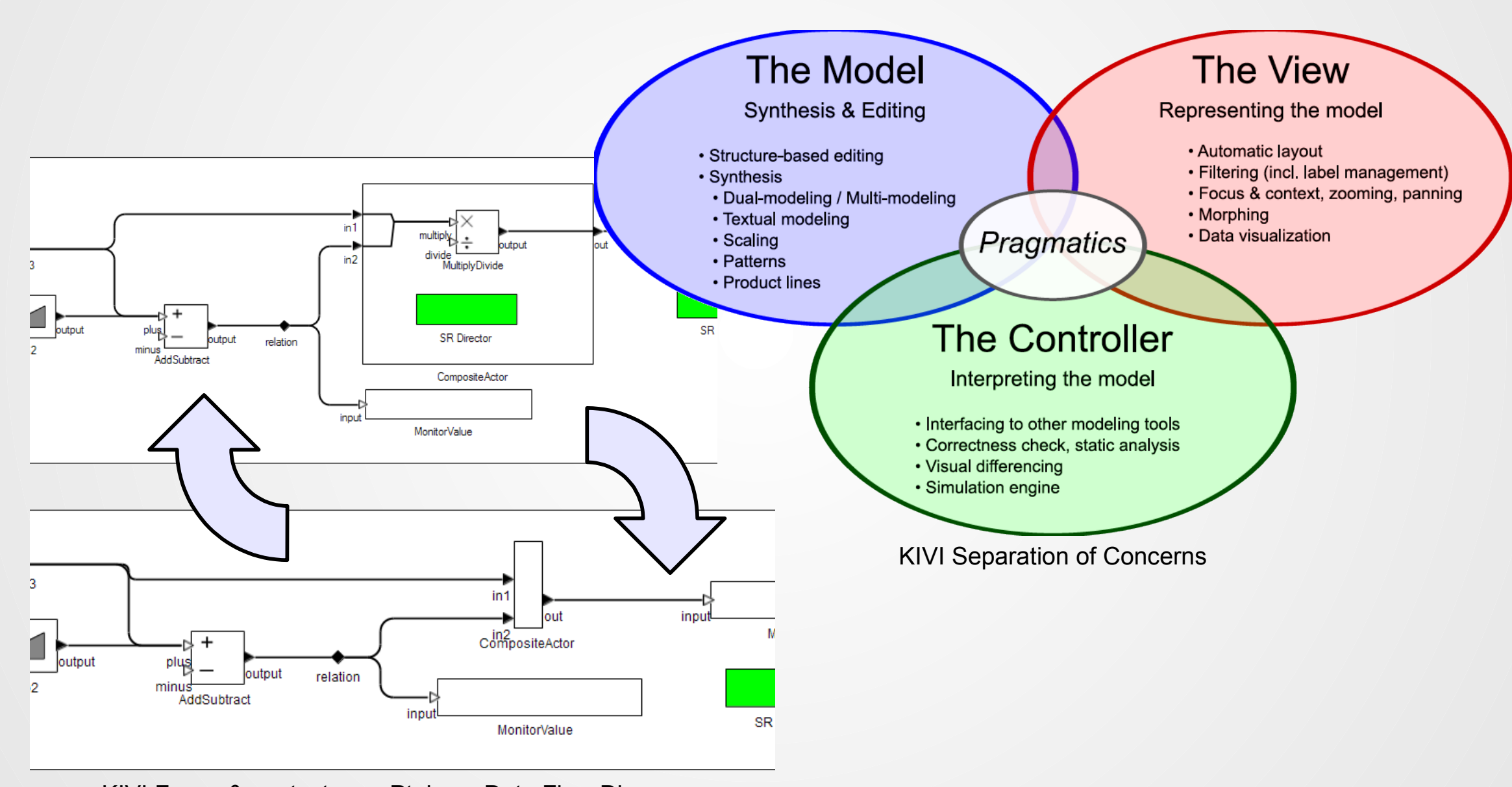
- Flexible, generic meta model for actor-oriented modeling languages
- Extendable Annotation concept
- Code Generation w/ Xpand/Xtend
- Exploiting the Eclipse Modeling Framework (EMF)
- Multiple editing frameworks supported: EMF, GMF, Graphiti, Xtext



KAOM Meta Model as EMF Ecore Diagram

## View Management

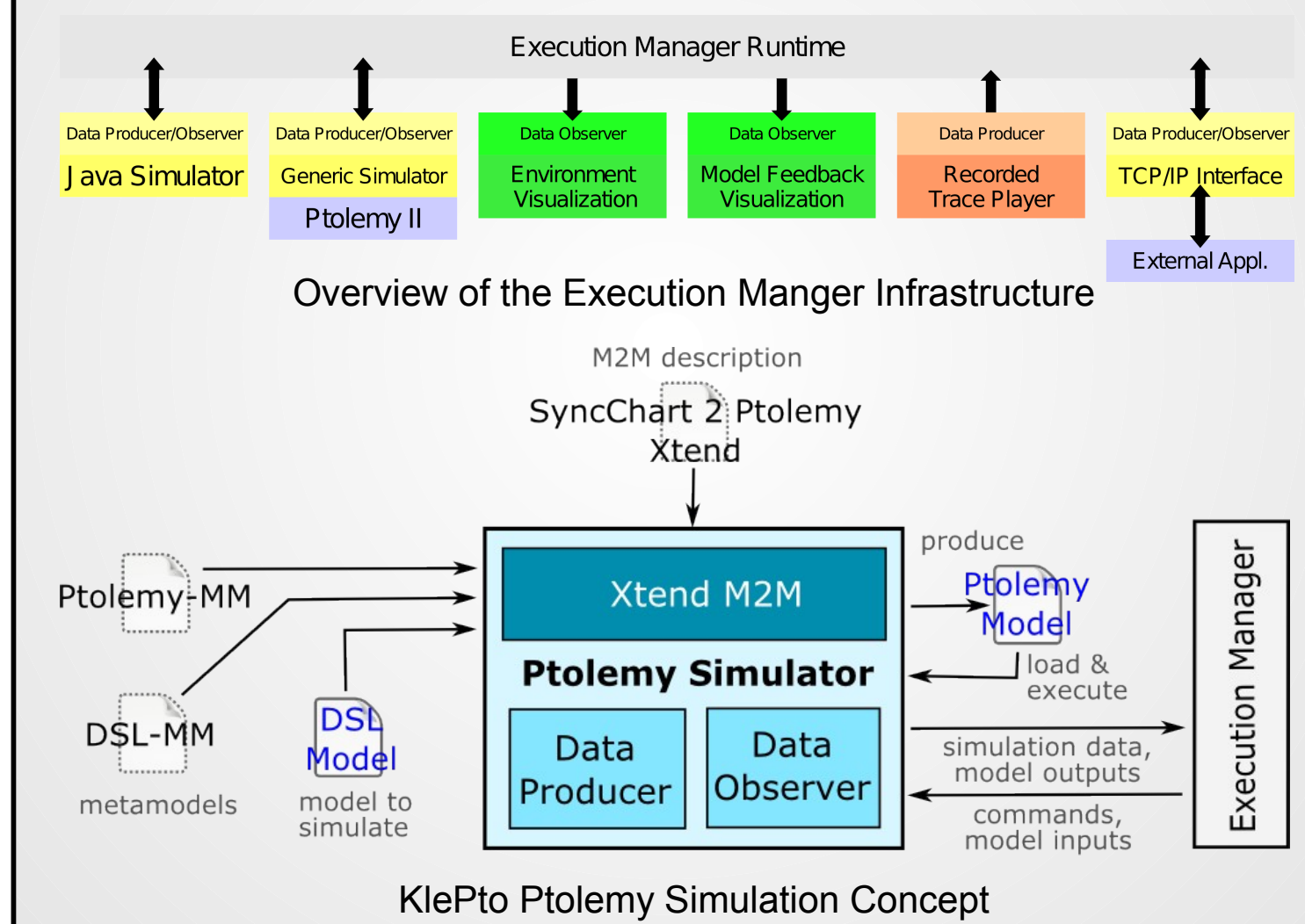
KiVi – KIELER View Management



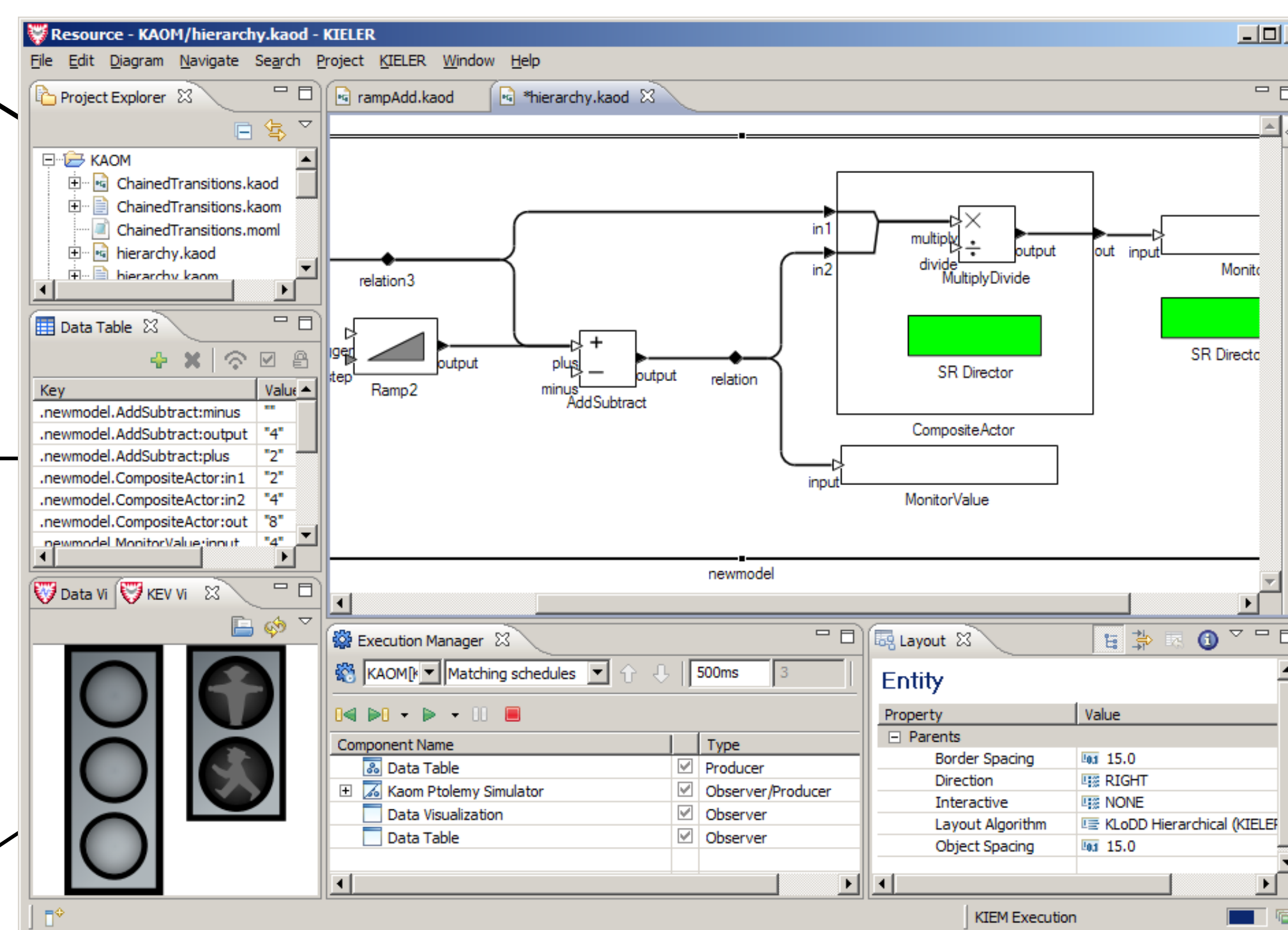
KiVi Focus & context on a Ptolemy Data Flow Diagram

## Model Execution

KIEM – KIELER Execution Manager [3]

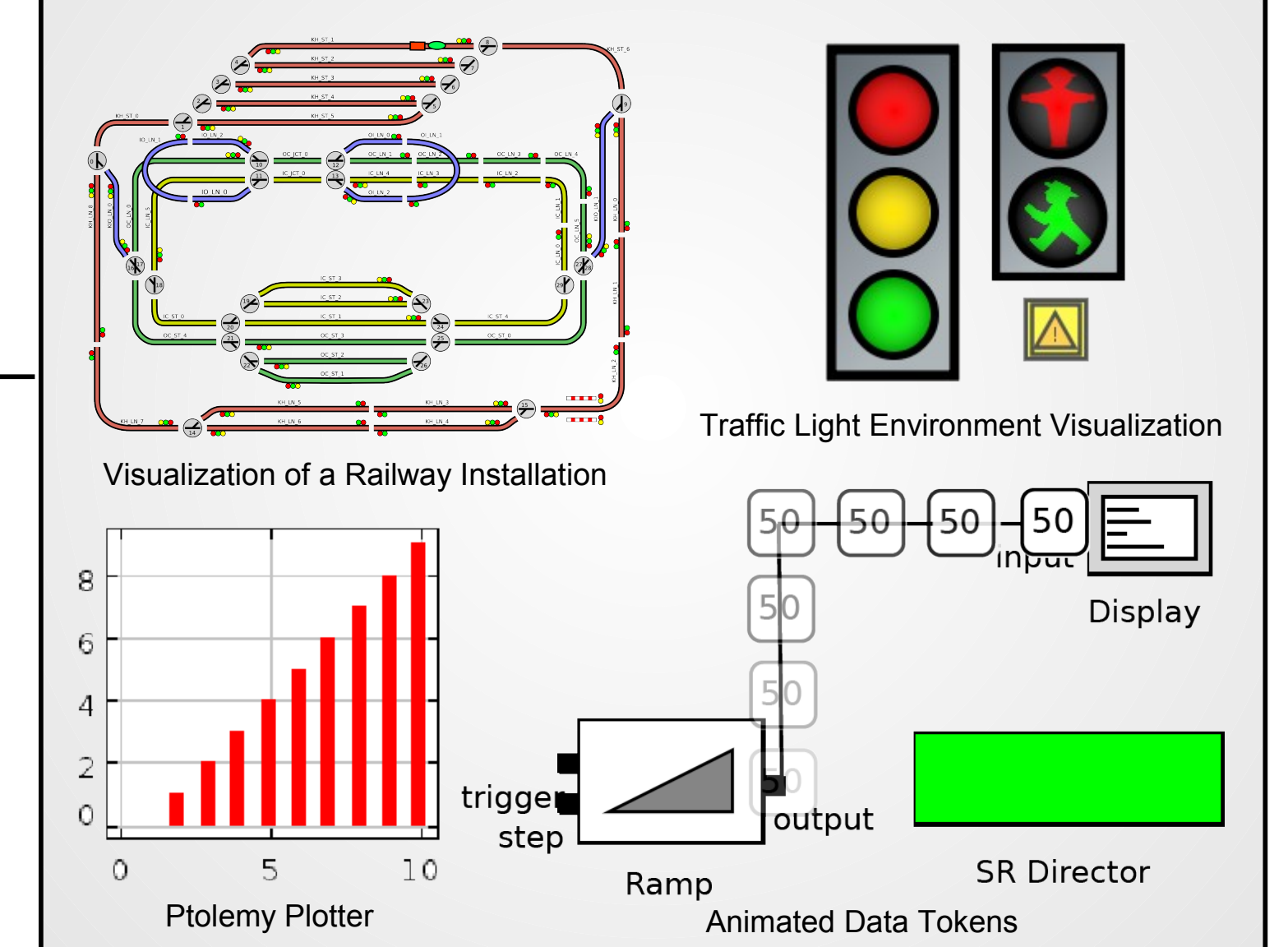


KiePto Ptolemy Simulation Concept



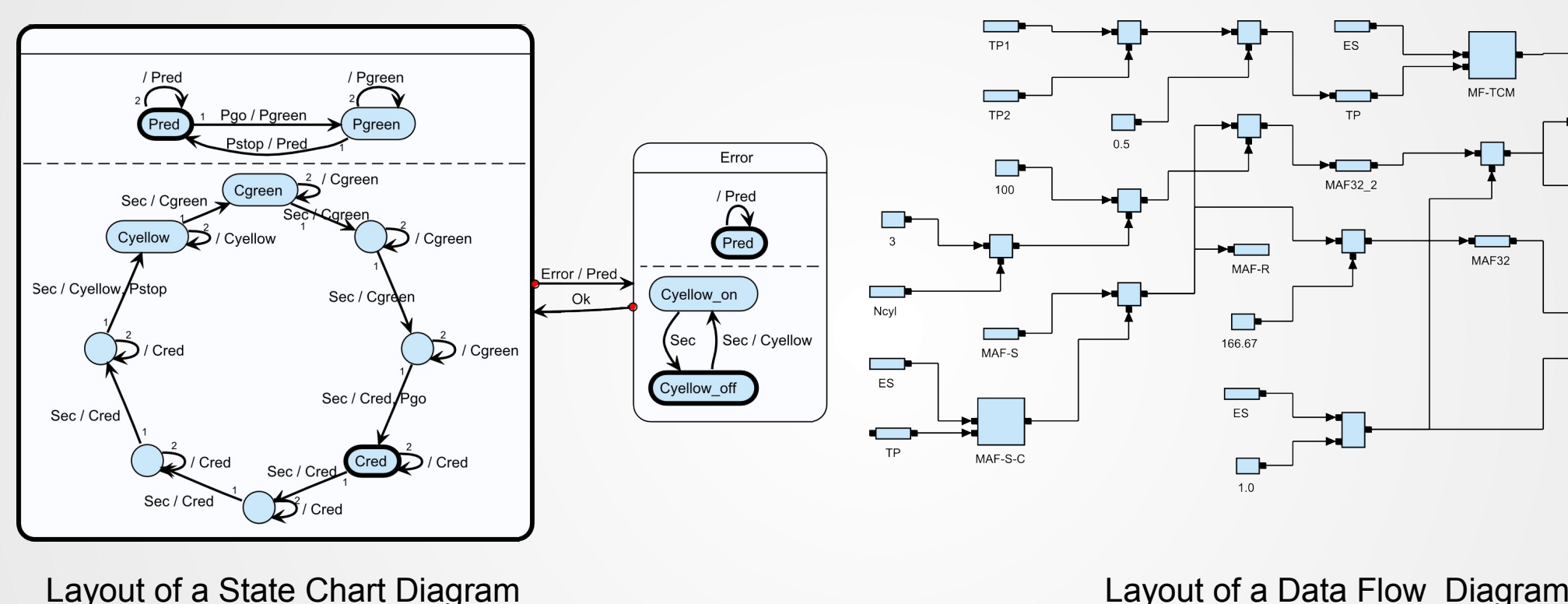
KAOM with Automatic Layout, Ptolemy rendering and Simulation in KIELER

## Data Visualization



## Automatic Layout

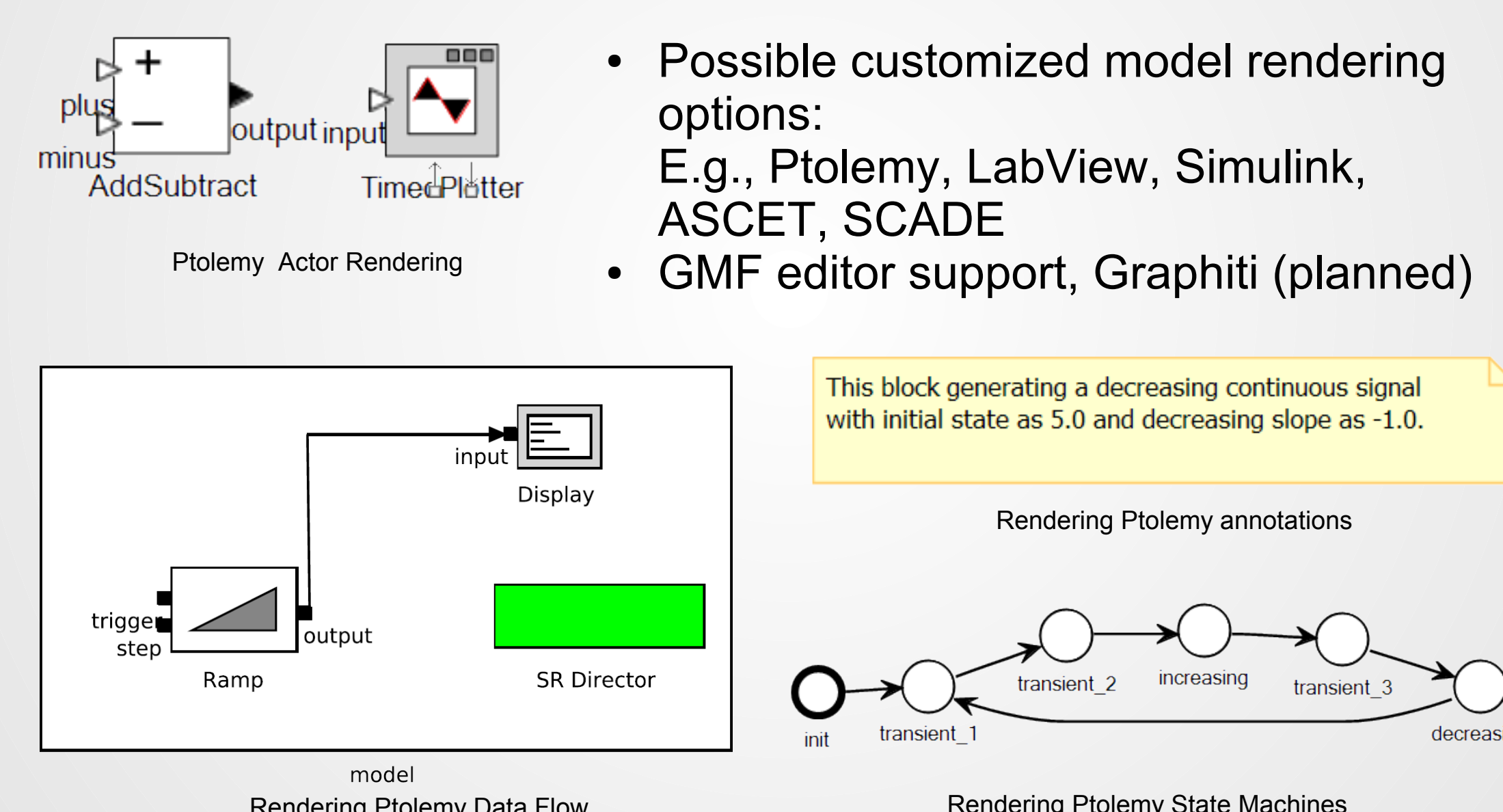
KIML – KIELER Infrastructure for Meta Layout [2]



- Automatic layout of GMF and Graphiti diagrams
- Generic interface for layout algorithms
- Flexible configuration of layout options by the user

## Model Rendering

KARMA – KIELER Advanced Rendering for Model Appearance



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### Further Information:

<http://www.informatik.uni-kiel.de/rtsys/kieler>

- [1] Hauke Fuhrmann and Reinhard von Hanxleden. Taming Graphical Modeling. In Proceedings of the ACM/IEEE 13th International Conference on Model Driven Engineering Languages and Systems (MoDELS'10), LNCS, Oslo, Norway, 2010. Springer.
- [2] Miro Spönemann, Hauke Fuhrmann, Reinhard von Hanxleden, and Petra Mutzel. Port constraints in hierarchical layout of data flow diagrams. In Proceedings of the 17th International Symposium on Graph Drawing (GD'09), LNCS, Chicago, September 2009.
- [3] Christian Motika, Hauke Fuhrmann and Reinhard von Hanxleden. Semantics and Execution of Domain Specific Models. In 2nd Workshop Methodische Entwicklung von Modellierungswerkzeugen (MEMWe 2010) at conference INFORMATIK 2010, GI-Edition – Lecture Notes in Informatics (LNI), Leipzig, Germany, 2010.
- [4] Reinhard von Hanxleden. SyncCharts in C—a proposal for light-weight, deterministic concurrency. In Proceedings of the International Conference on Embedded Software (EMSOFT'09), Grenoble, France, October 2009.