

# KIELER Actor Oriented Modeling

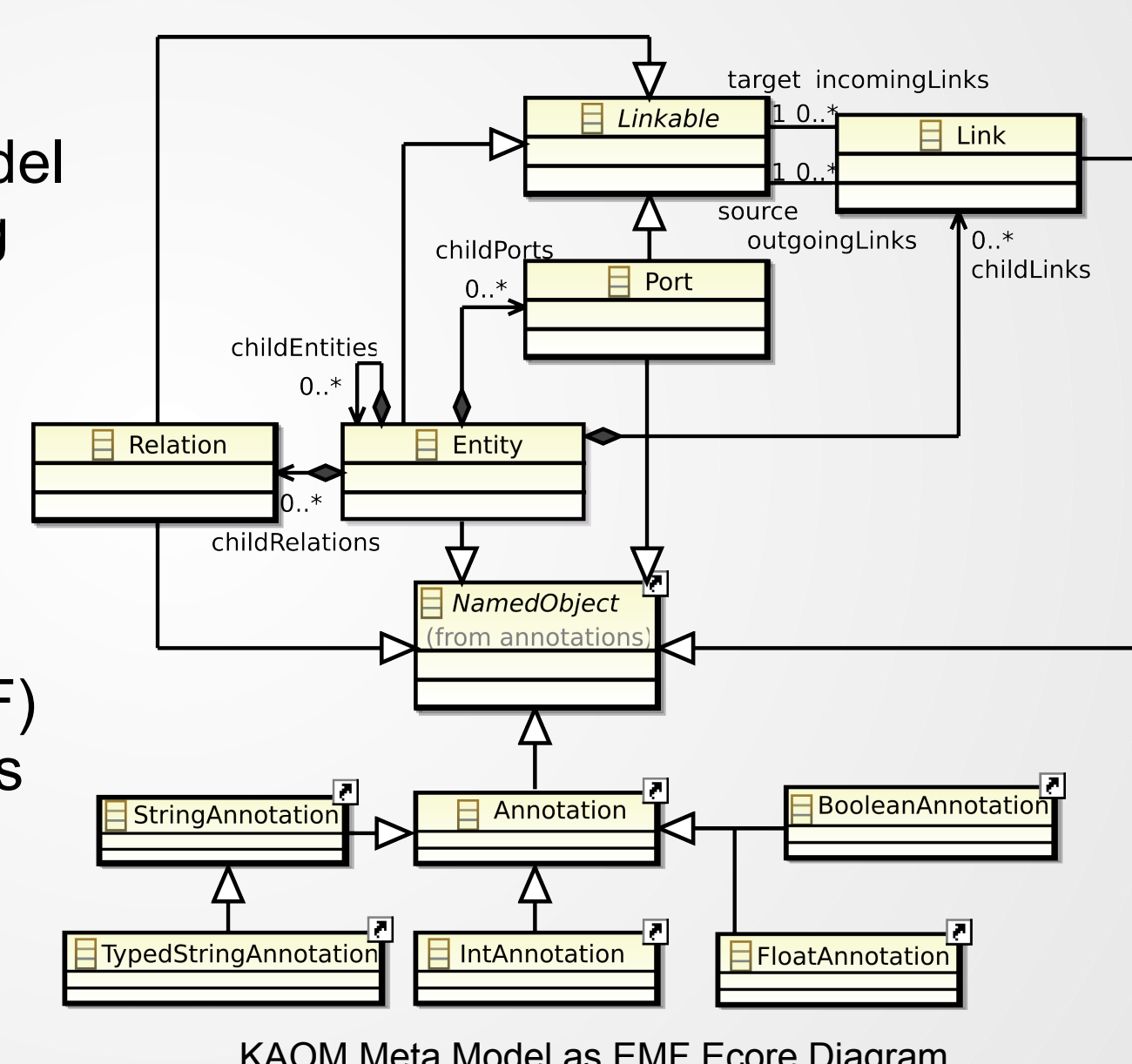
**Kiel Integrated Environment for Layout**

*Eclipse Rich Client*

## Meta Modeling

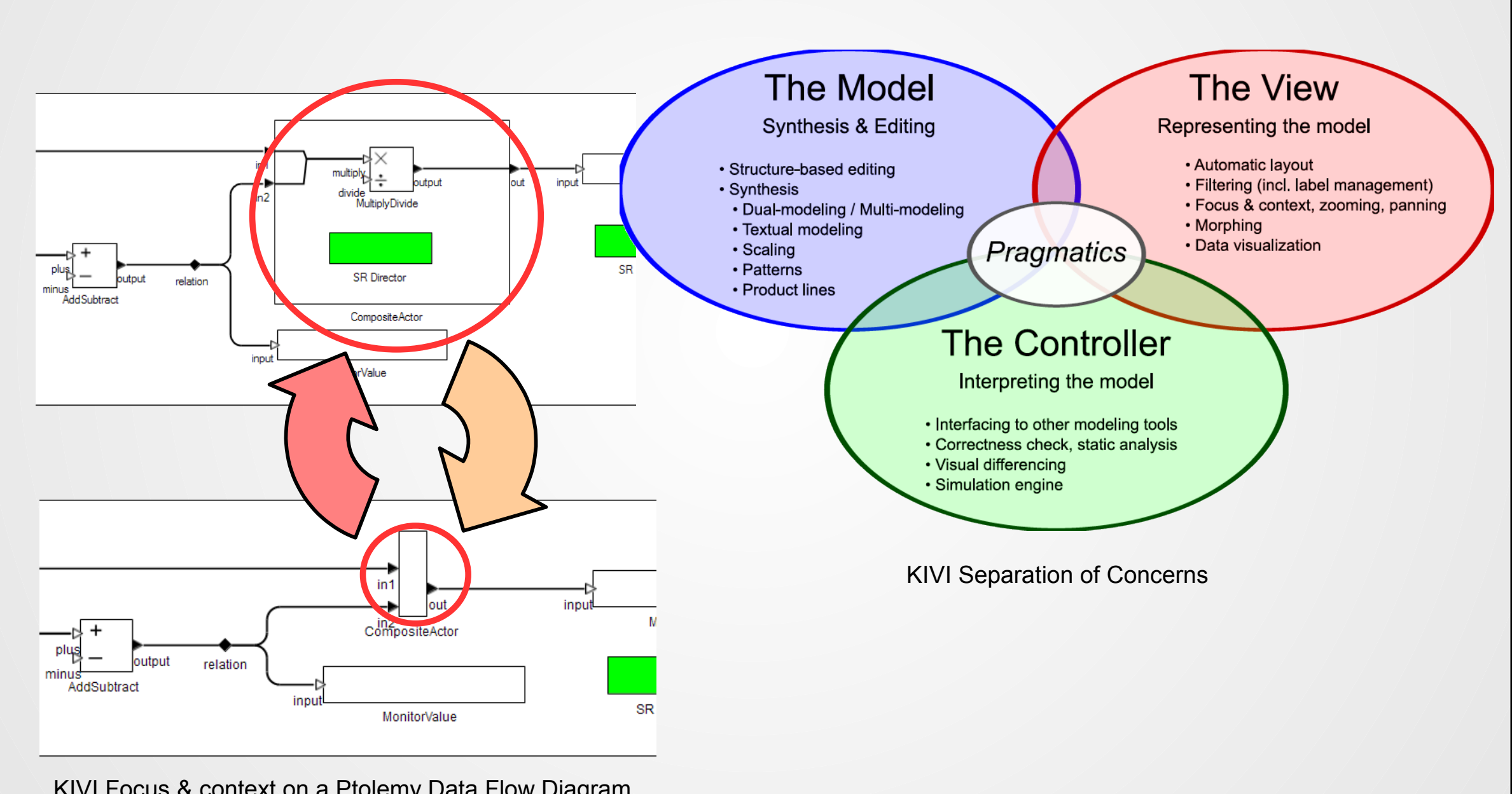
KAOM – KIELER Actor Oriented Modeling

- 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



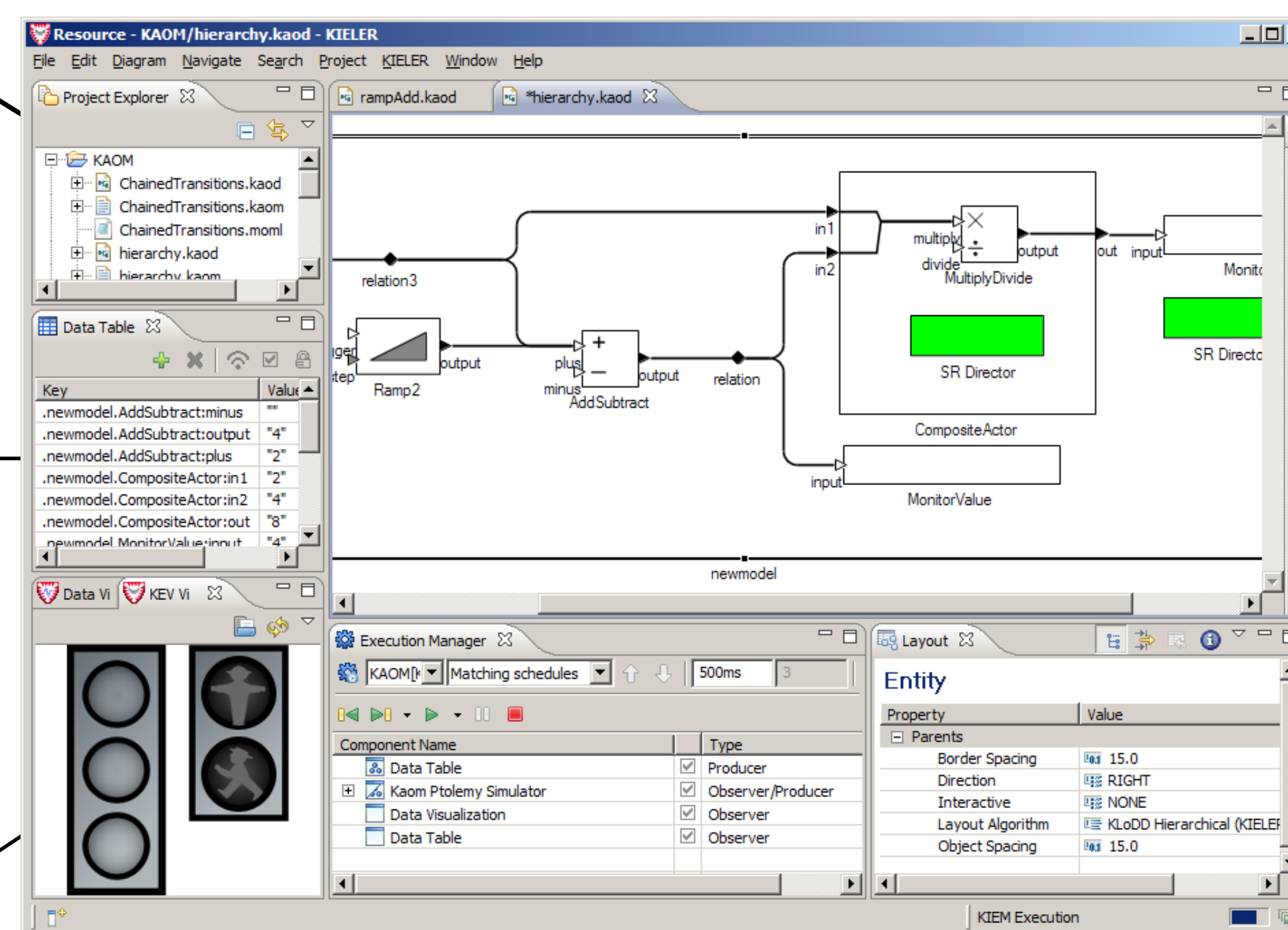
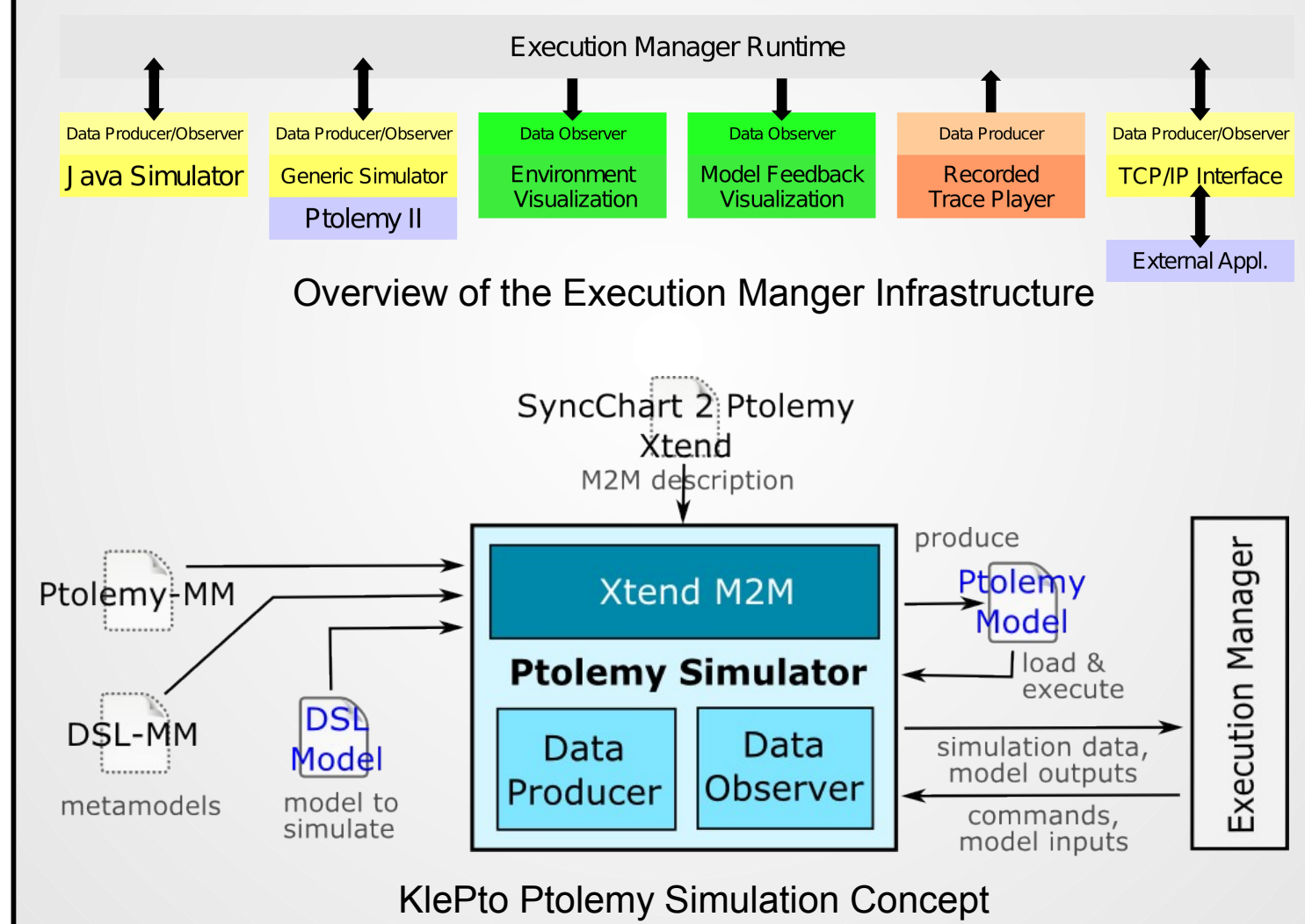
## View Management

KiVi – KIELER View Management



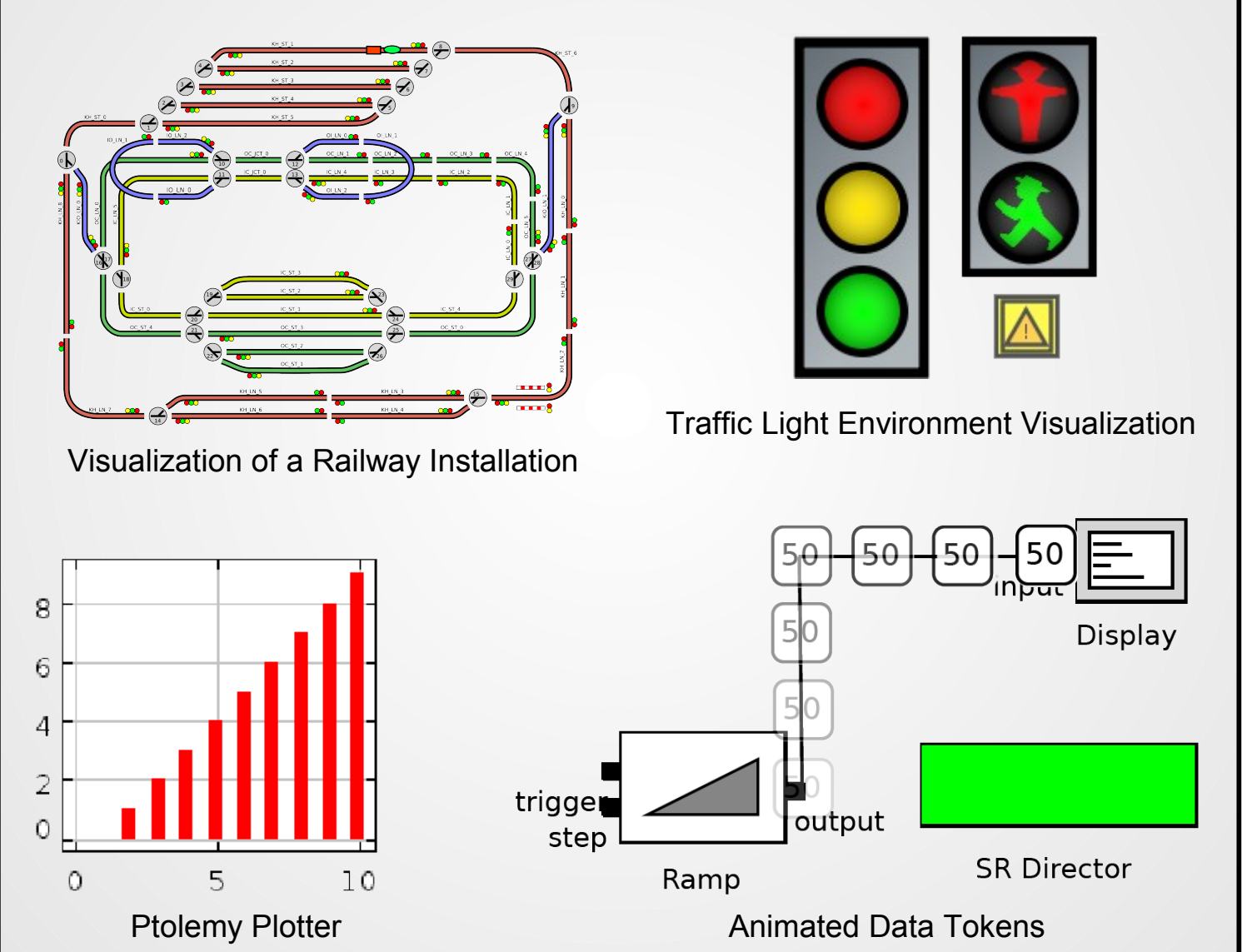
## Model Execution

KIEM – KIELER Execution Manager [3]



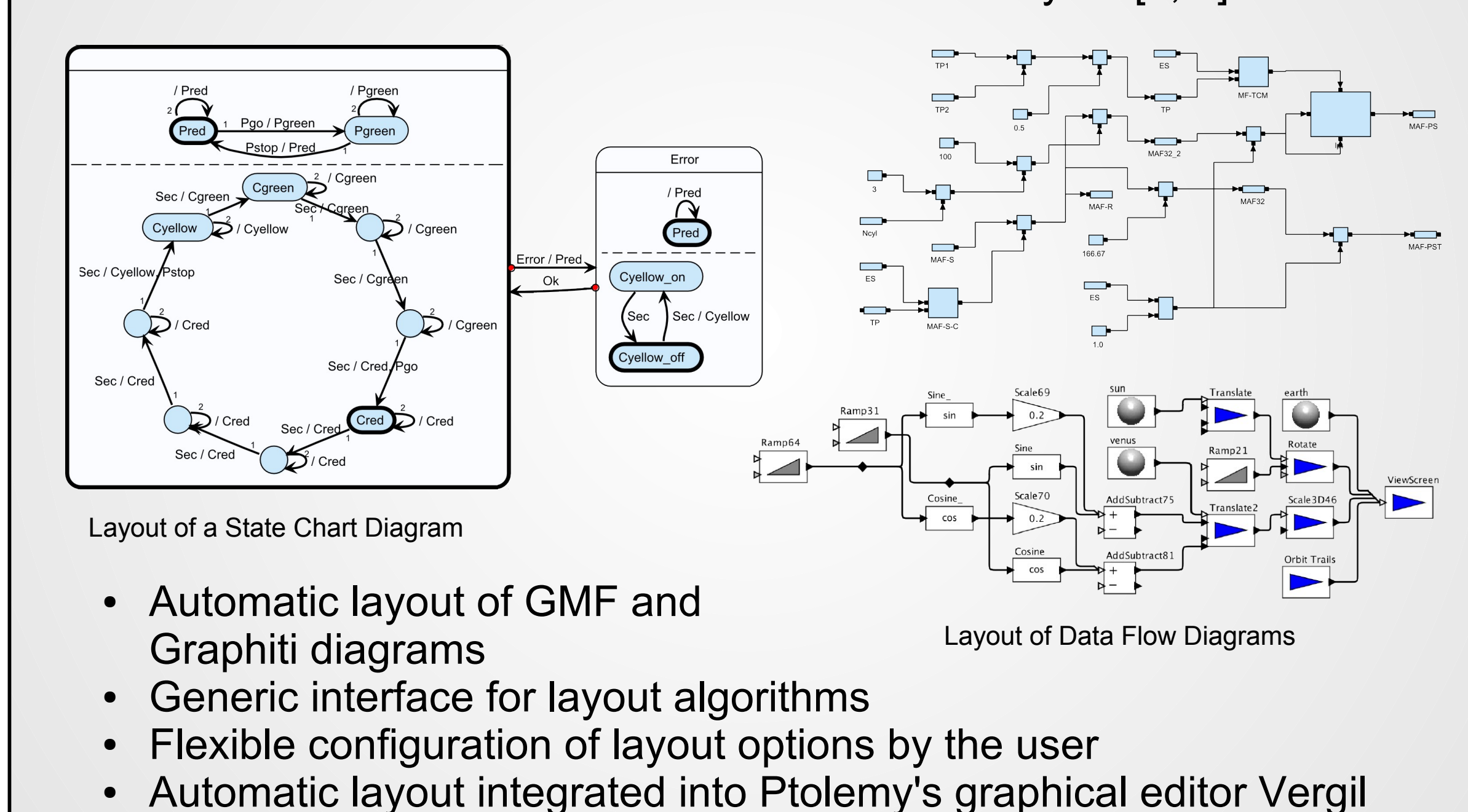
KAOM with Automatic Layout, Ptolemy rendering and Simulation in KIELER

## Data Visualization



## Automatic Layout

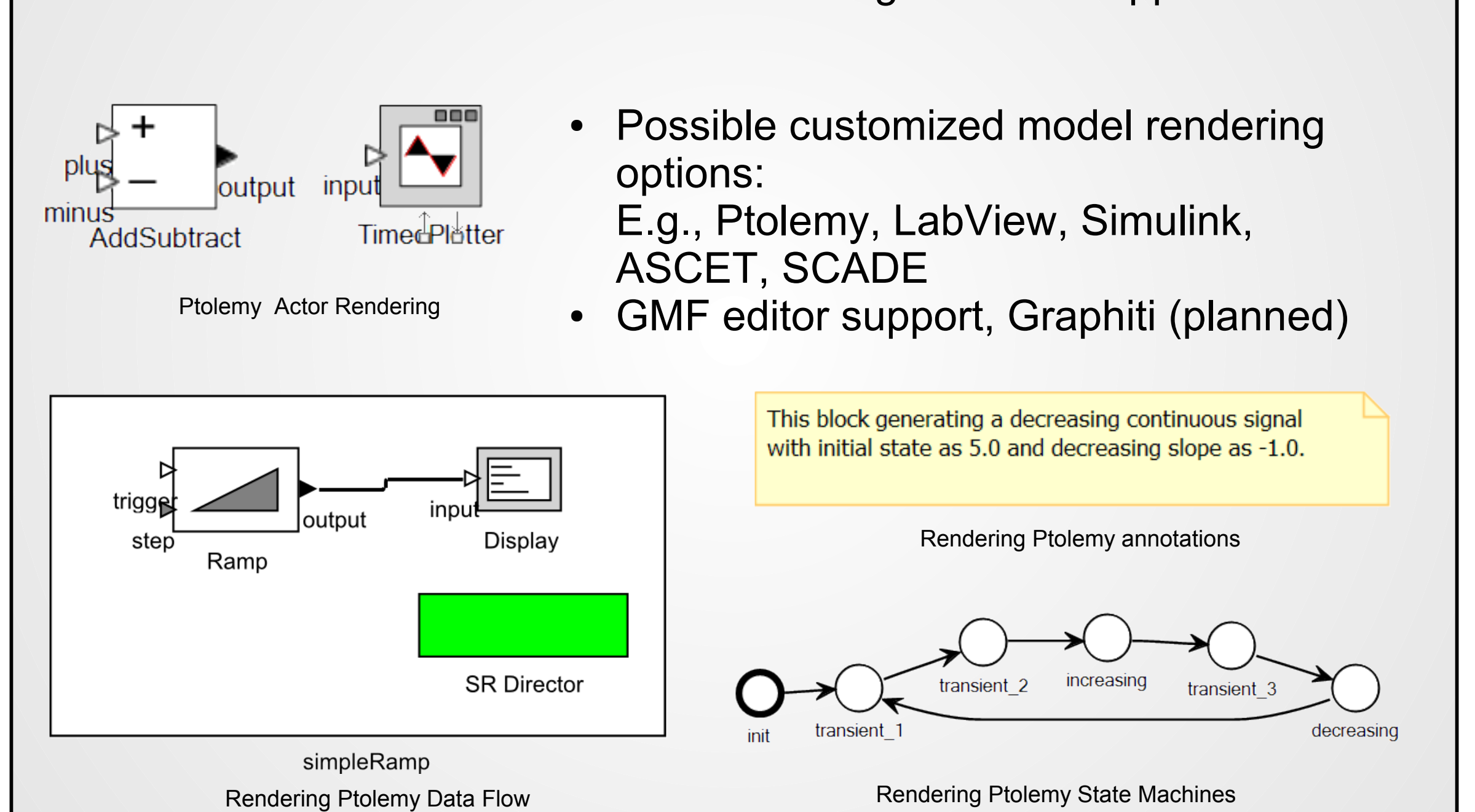
KIML – KIELER Infrastructure for Meta Layout [2, 5]



- Automatic layout of GMF and Graphiti diagrams
- Generic interface for layout algorithms
- Flexible configuration of layout options by the user
- Automatic layout integrated into Ptolemy's graphical editor Vergil

## 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.
- [5] Miro Spönemann, Hauke Fuhrmann and Reinhard von Hanxleden. Automatic Layout of Data Flow Diagrams in KIELER and Ptolemy II. Technical Report 0914, Christian-Albrechts-Universität zu Kiel, Department of Computer Science, July 2009.