

KIELER Actor Oriented Modeling

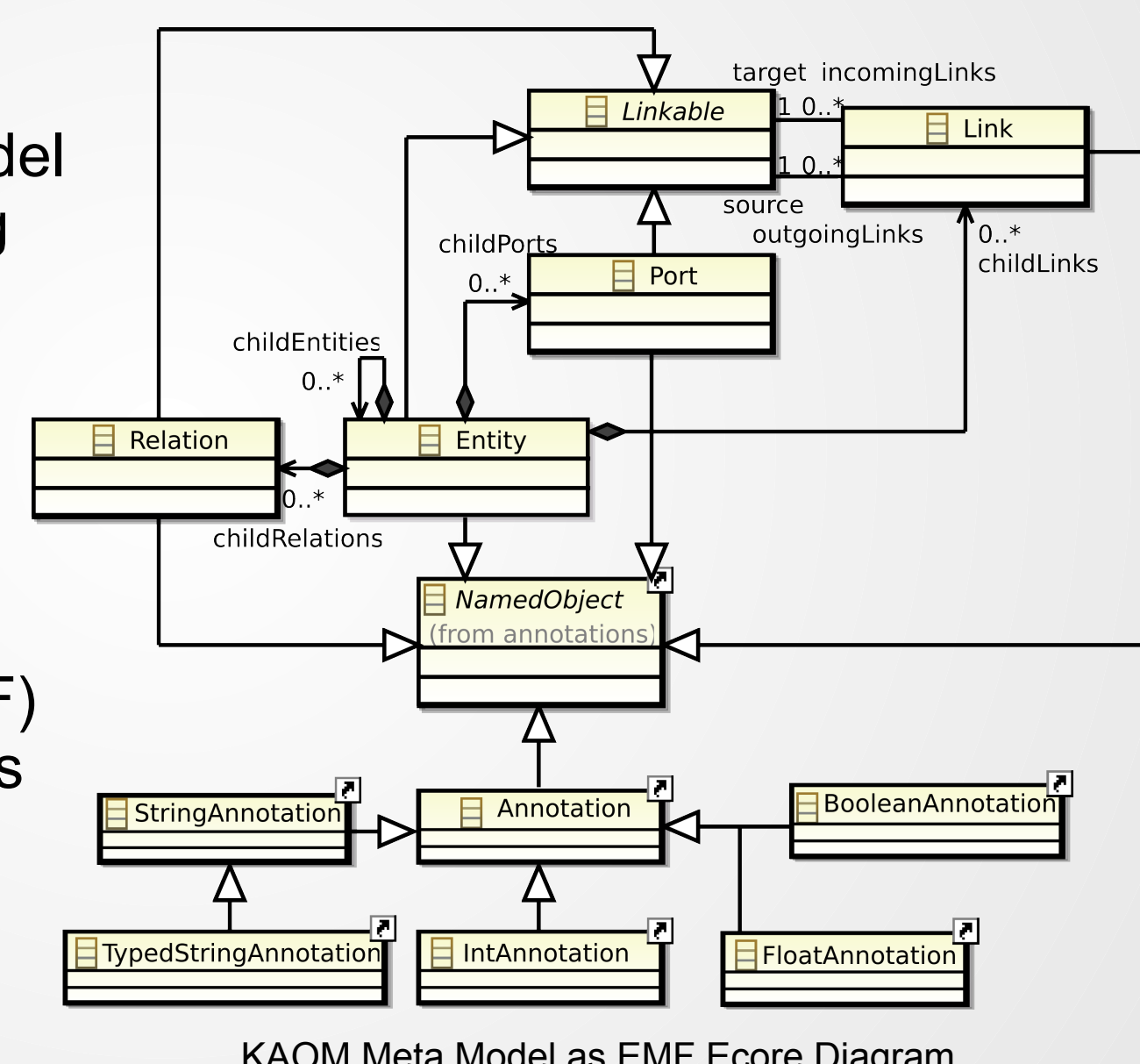
Kiel Integrated Environment for Layout

Eclipse Rich Client

Meta Modeling

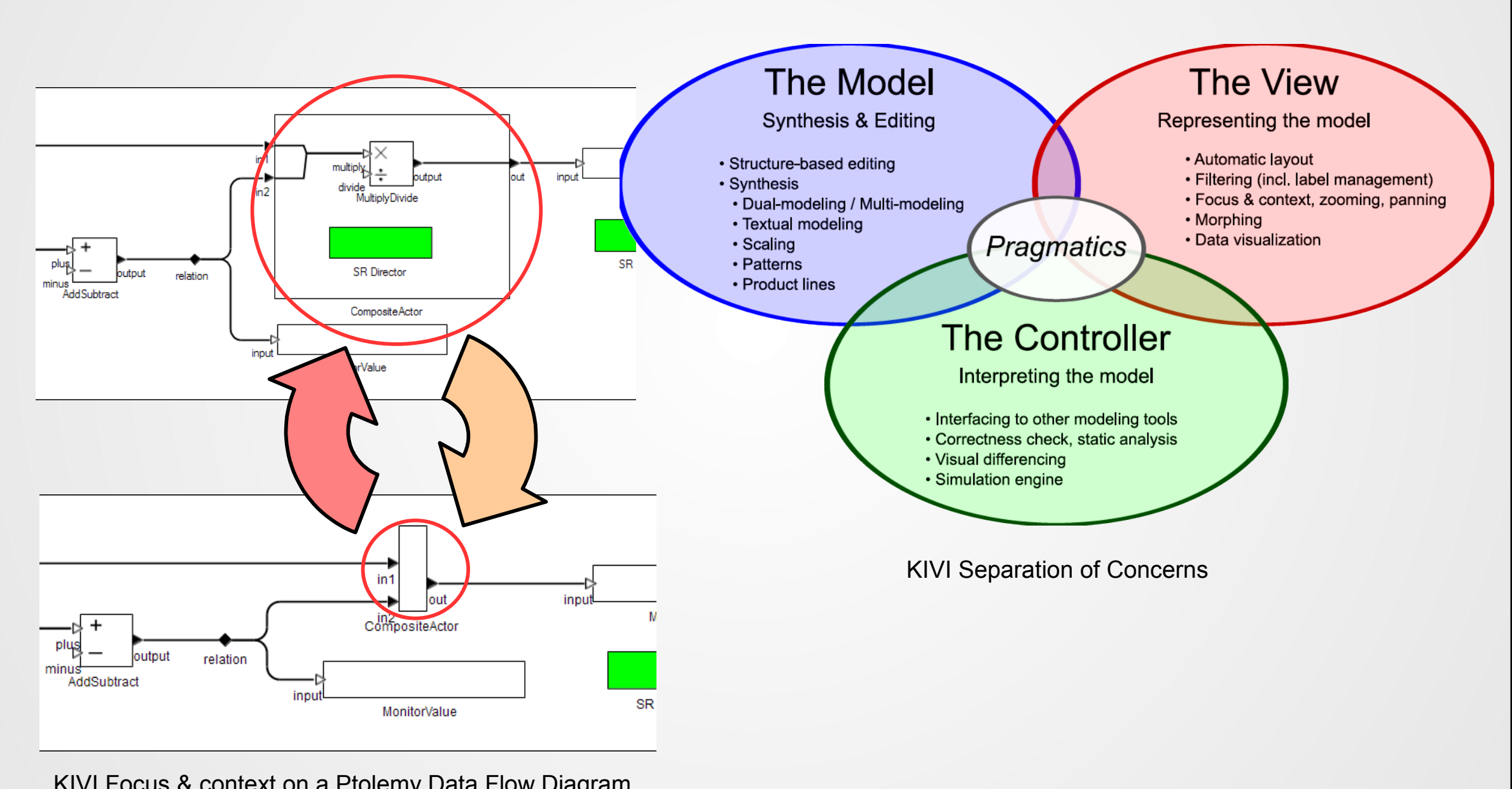
KAOM – KIELER Actor Oriented Modeling

- 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



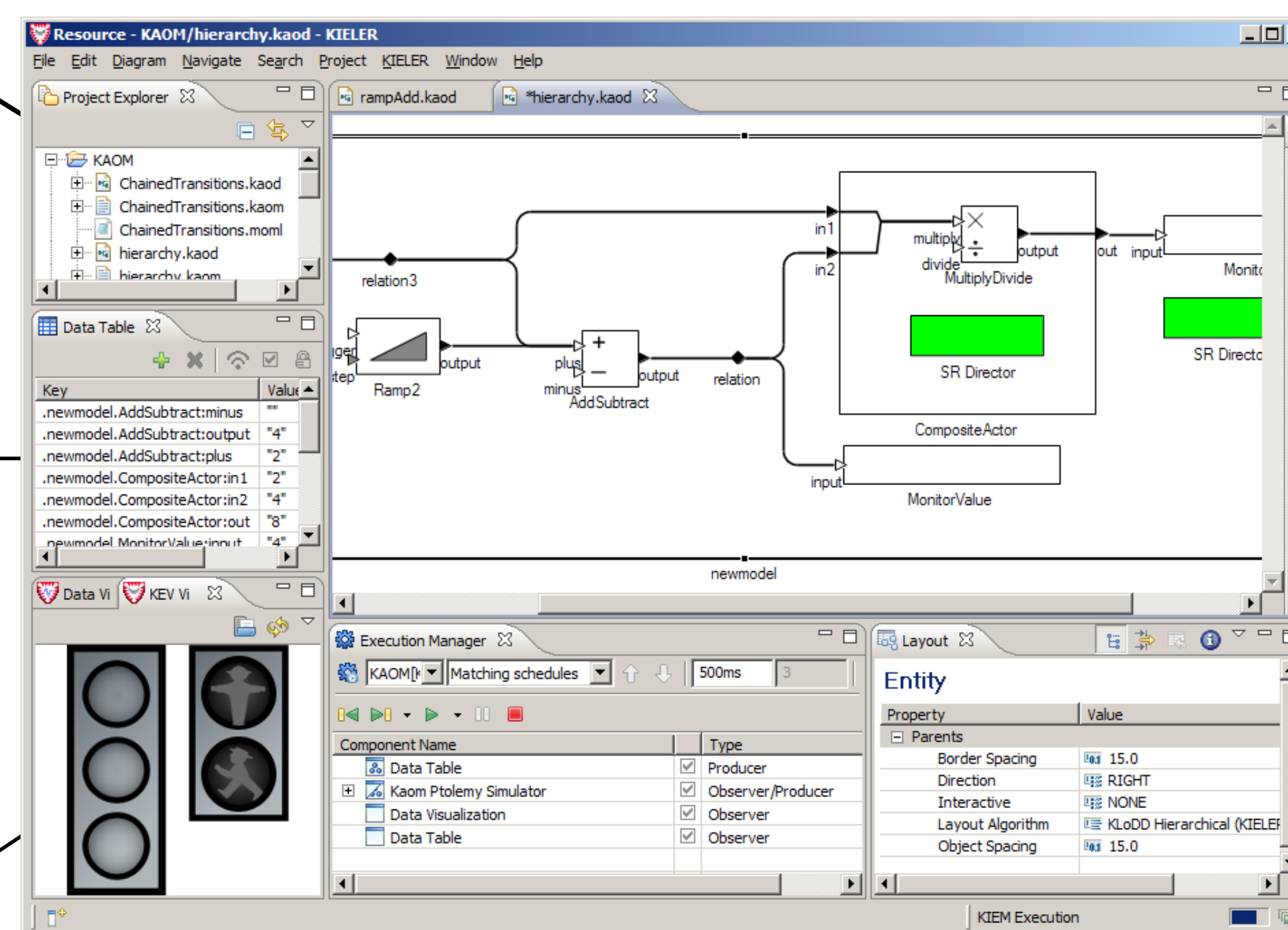
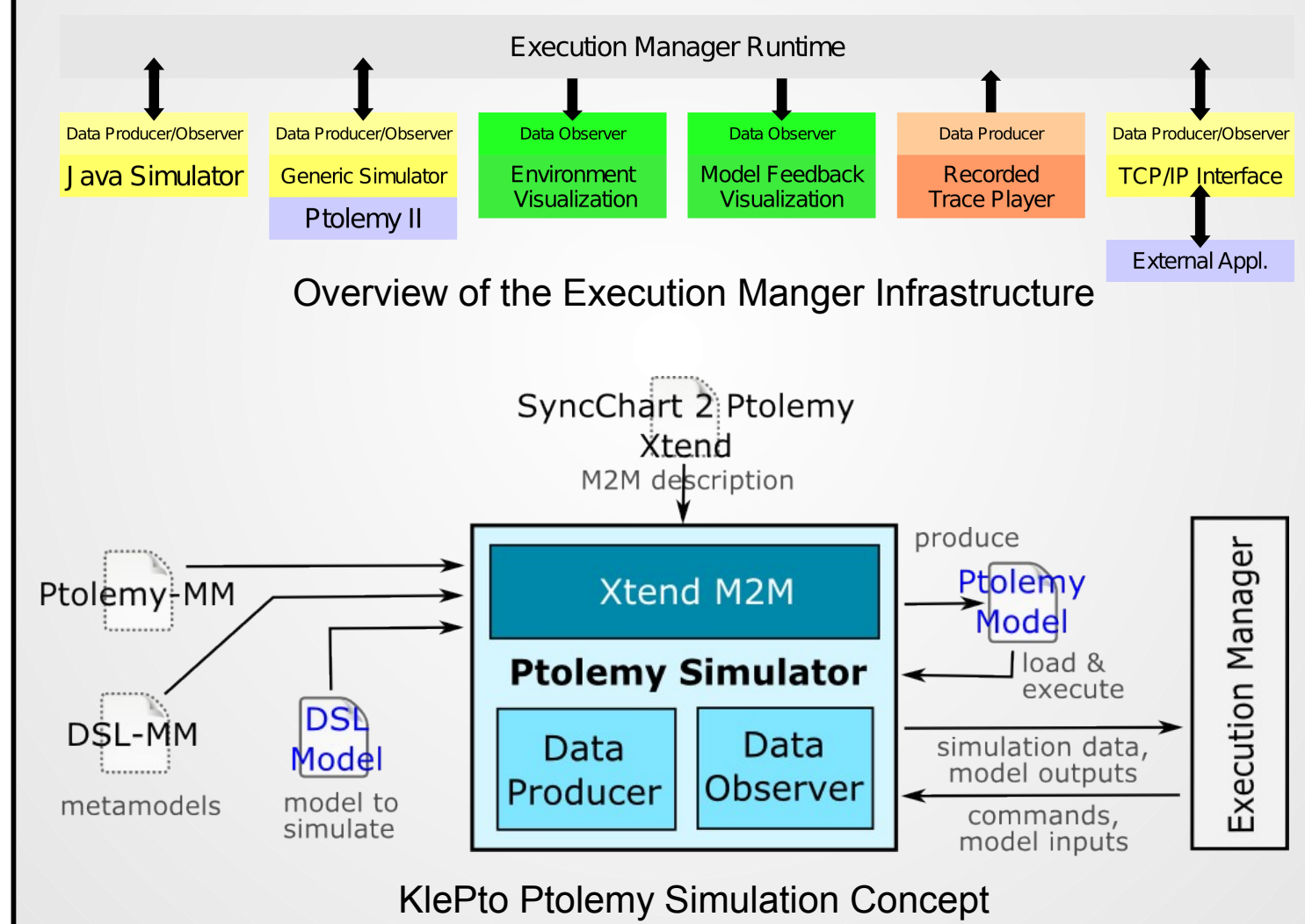
View Management

KiVi – KIELER View Management



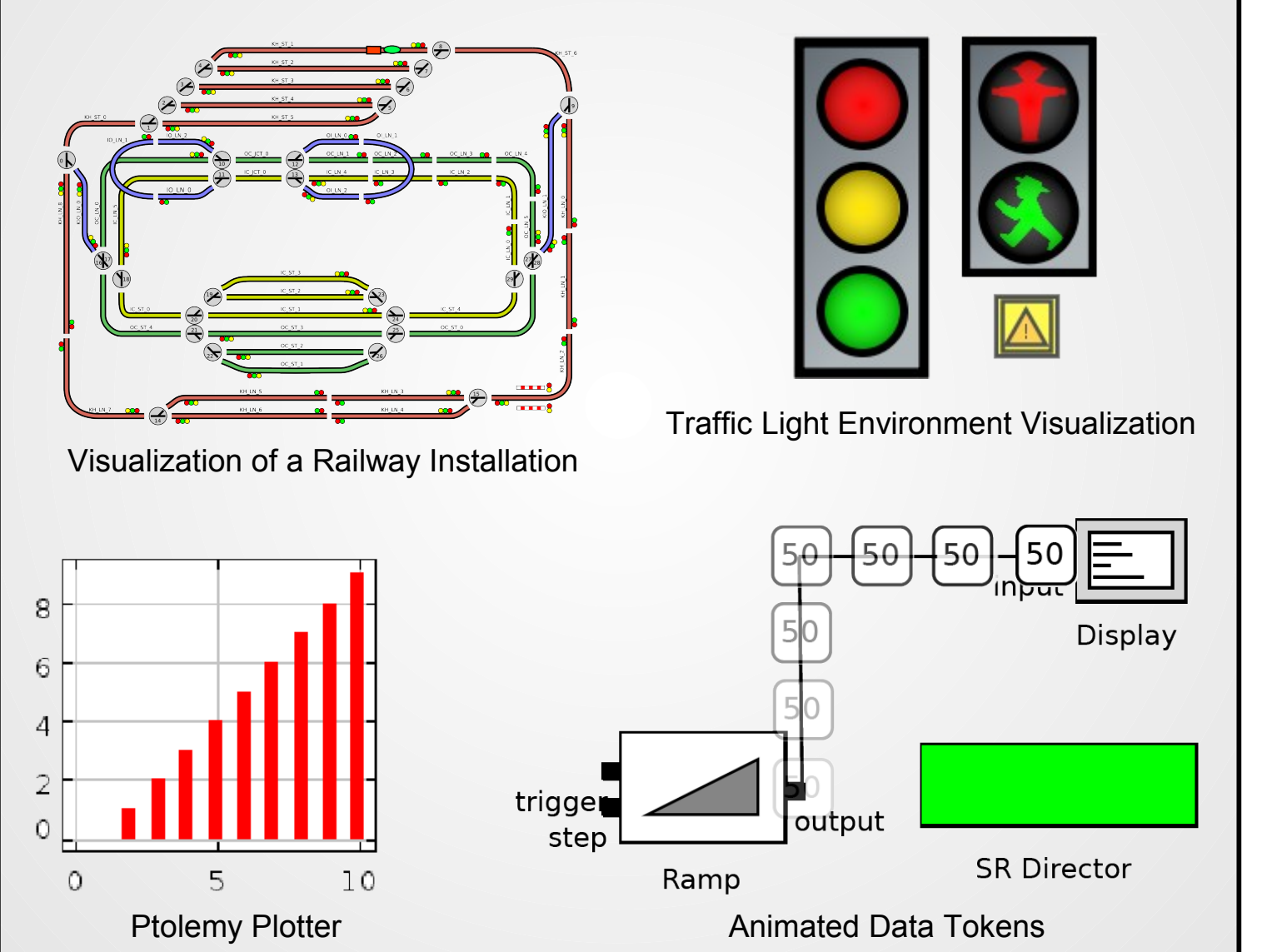
Model Execution

KIEM – KIELER Execution Manager [3]



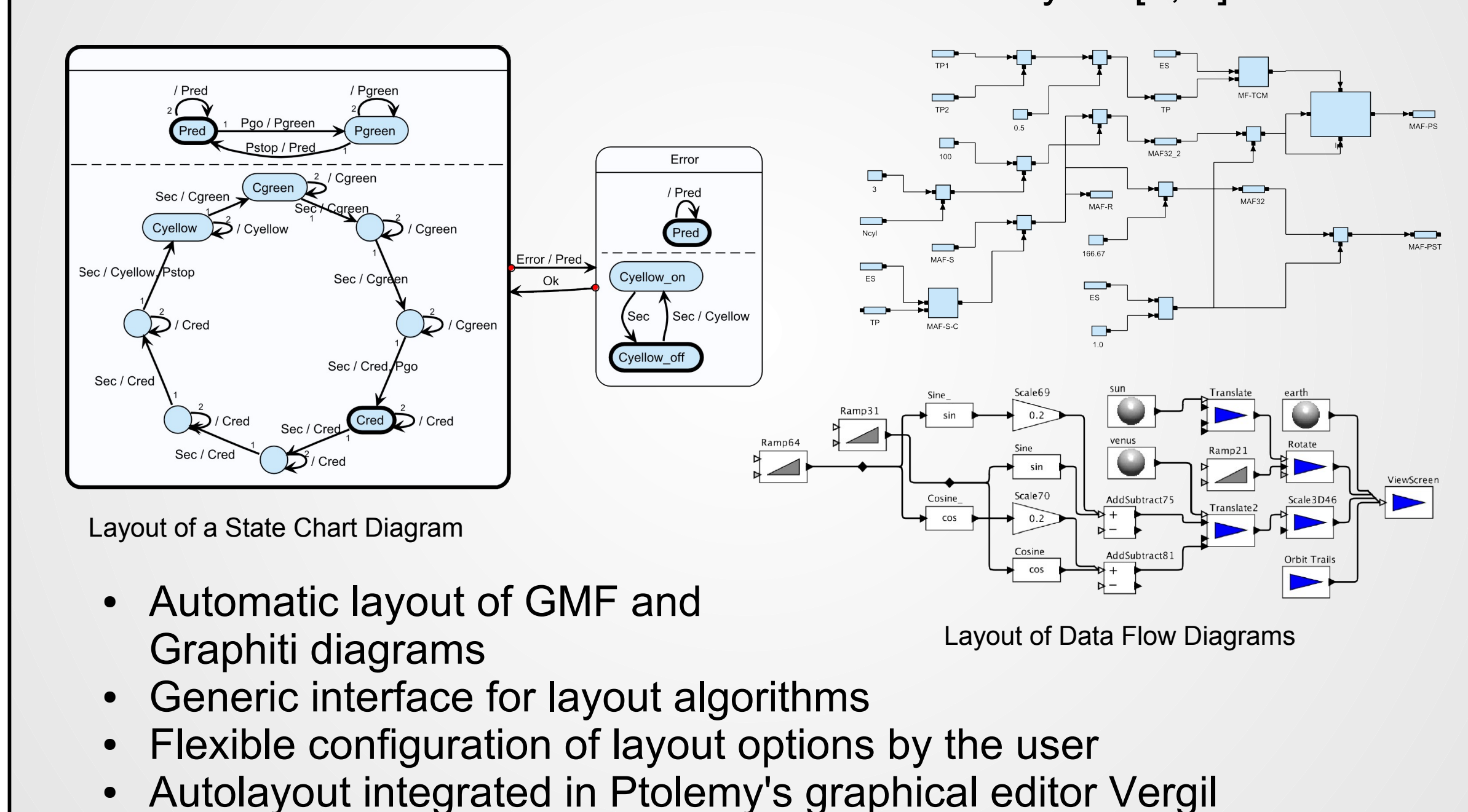
KAOM with Automatic Layout, Ptolemy rendering and Simulation in KIELER

Data Visualization



Automatic Layout

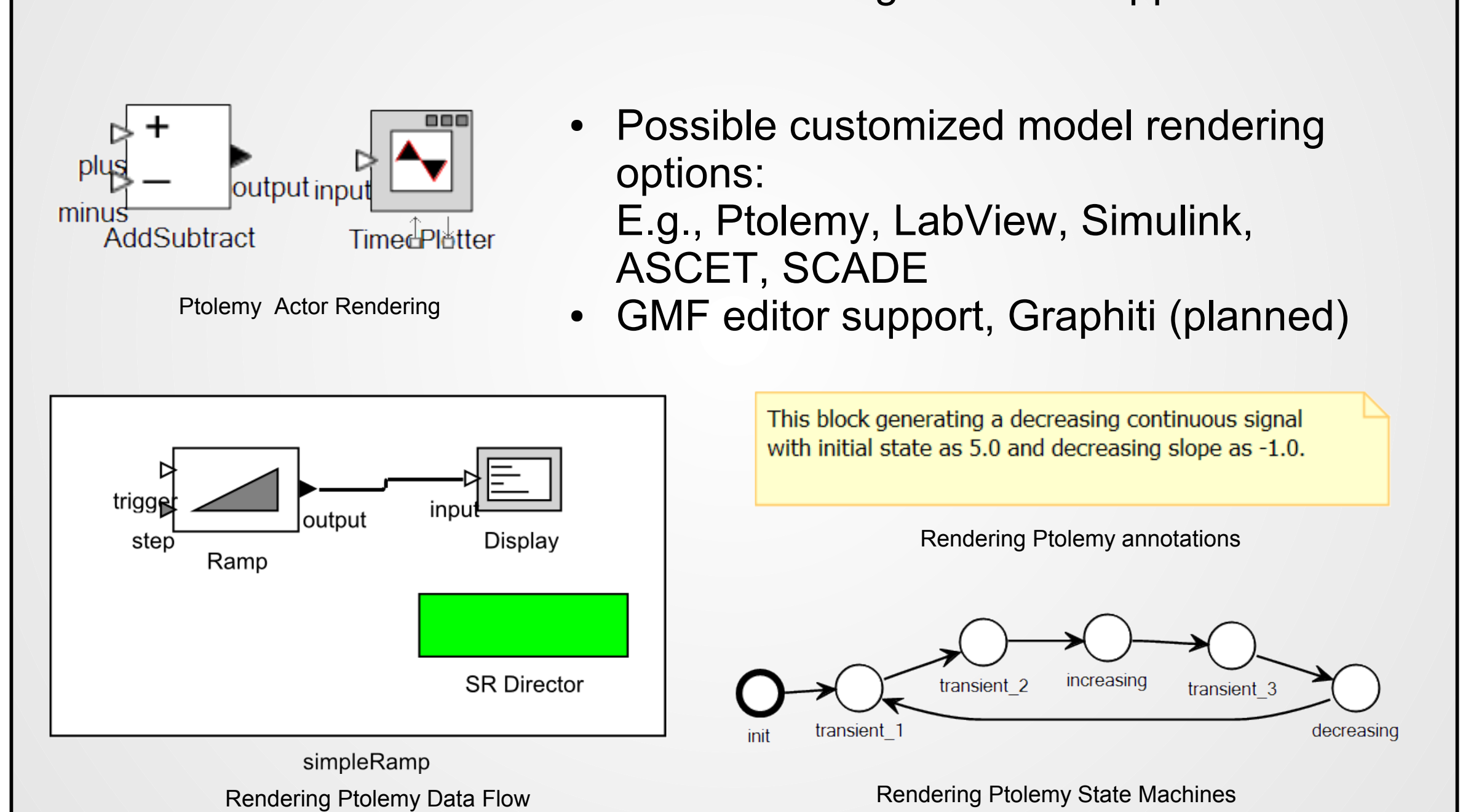
KIML – KIELER Infrastructure for Meta Layout [2, 5]



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

Model Rendering

KARMA – KIELER Advanced Rendering for Model Appearance



- Possible customized model rendering options:
E.g., Ptolemy, LabView, Simulink, ASCET, SCADE
- GMF editor support, Graphiti (planned)

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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.