

MDE shortcomings	Compilation solutions
Increasing need for parsing tools due to increase in number of DSLs	Efficient parsing and parser generators
Platform Description Model	Capture of platform specific knowledge through dedicated descriptions
Tool efficiency and scalability	Sophisticated algorithms and heuristics
Increasingly complex model transformations	Know-how in sophisticated algorithms development and program transformation paradigms

Compilation shortcomings	MDE solutions
IRs contain more and more complex information, more and more complex IR processings,	Complex data representation and Separation of Concerns
Maintainability	Homogeneization of software through generative approaches
Documentation	Metamodels as documentation
Error-prone and time consuming development tasks	Automation through meta-tools and metatooling
Ordering of the compilation pass	Design-by-Contract to limit possible choices to meaningful choices