Embedded systems meet high performance computing:

Toward a common programming model leveraging application’s mathematical grounds
POLCA explicitly addresses the programmability concerns of both embedded and high performance computing. Both domains have generated strongly focused approaches for solving their specific problems that are now confronted with the increasing need to better address and exploit the parallelism in embedded systems and the heterogeneity in high performance computing. Rather than improving both domains separately, POLCA takes a bold step forward by proposing a hybrid programming model that decisively increases programming efficiency in both areas and enables realisation of multi-domain use cases.

Objectives:

- **Capture and represent properties, elaborate transformation rules and ensure their correct application.**
- **Exploit POLCA syntax to reorganize the code according to the rules.**
- **Provide interface to target platform compilers.**
- **Illustrate the POLCA approach for real world application.**

**Consortium**

- IOMI, University of Ulm (Coordinator)
- CAES, University of Twente
- HLRS, University of Stuttgart
- CETIC
- Fundación IMDEA Software
- Universidad Politécnica de Madrid
- Maxeler Technologies
- Recore Systems