



# MORPHEUS

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## Abstract of D2.1.1: Toolset specification

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ABSTRACT	This document is the abstract of the D2.1.1. It is available on the MORPHEUS public website
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The MORPHEUS circuit is programmed thanks to a 2-level approach. The highest level is a C language program in which some functions (identified before entering the toolset) can be replaced by accelerated operations implemented on reconfigurable units. This first level permits to address the high level control-dominant part of the application. The second level is the description of these functions. Since they are implemented on reconfigurable units, they are supposed to contain some intrinsic parallelism. That is why a language allowing the expression of this parallelism is proposed. Thus, the MORPHEUS toolset is organised in three main parts:

- A “**Retargetable compilation**” part (task T2.4) dealing with the compilation of the highest level C program including calls of accelerated operations and optimising the scheduling of the configuration of these operations at design time
- A “**Dynamic control design**” part (task T2.3), finally optimising the scheduling of the calls at run-time.
- A “**Spatial design**” part (task T2.2) dealing with the implementation design on reconfigurable units of the “operation” mentioned above

Moreover, **formal methods** are applied to enhance

