**Project no.: 619209**

**Project full title: Analysis of Massive Data STreams**

**Project Acronym: AMIDST**

**Deliverable no.: D2.1**

**Title of the deliverable: The AMIDST modelling framework – Initial draft report**

|  |
| --- |
| **Contractual Date of Delivery to the CEC: 30.09.2014**  **Actual Date of Delivery to the CEC: 29.09.2014**  **Organisation name of lead contractor for this deliverable: AAU**  **Author(s): Hanen Borchani, Antonio Fernández, Odd Erik Gundersen, Sigve Hovda, Helge Langseth, Anders L. Madsen, Ana M. Martínez, Ramón Martínez, Andrés Masegosa, Thomas D. Nielsen, Antonio Salmerón, Frode Sørmo, Galia Weidl**  **Participants(s): P01, P02, P03, P04, P05, P06, P07**  **Work package contributing to the deliverable: WP2**  **Nature: R**  **Version: 1.0**  **Total number of pages: 69**  **Start date of project**: 1st January 2014 **Duration:** 36 month |

|  |  |  |
| --- | --- | --- |
| **Project co-funded by the European Commission within the Seventh Framework Programme (2007-2013)** | | |
| **Dissemination Level** | | |
| **PU** | Public | **X** |
| **PP** | Restricted to other programme participants (including the Commission Services) |  |
| **RE** | Restricted to a group specified by the consortium (including the Commission Services) |  |
| **CO** | Confidential, only for members of the consortium (including the Commission Services) |  |

**Abstract:**

|  |
| --- |
| In this document, we explore the different family distributions exhibited by the data for the three use-case providers. Based on these findings and the expert knowledge provided, we introduce the AMIDST modelling framework as a model that is capable to automatically learn from data and take advantage of potential domain knowledge. This preliminary model aims at being expressive enough to deal with the required use cases but also sufficiently self-contained so as to maintain complexity under control. |

**Keyword list:** AMIDST modelling framework, application scenarios, preliminary models, data analysis, Bayesian networks, dynamic Bayesian networks, conditional linear Gaussian models.