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| --- | --- | --- | --- | --- |
| **Build** | **Product** | **Component** | **Task** | **Dependency** |
| Data Factory (DF) | Brain morphological features | Feature Engineering | T8.3.11 Brain morphological features UCL | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Reference data: TBI (Traumatic Brain Injury), PPMI (Parkinson's Progression Markers Initiative), ADNI | Data Factory (DF): Data Storage | |
| Algorithm Library | Large Scale Analytics Algorithms | Machine Learning Library | T8.4.5 Large-scale data analytics on massively parallel architecture ICL | Data Factory (DF): HPC | Algorithm Library: Machine Learning Library | |
| Hospital Databases Bundle (HDB) | Extended multidimensional query support | Local Database | T8.1.1 Infrastructure to support just-in-time analytics on raw medical data EPFL | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | MDR (Meta Data Register): Ontology&Standards | Data Factory (DF): Data Integration | Hospital Databases Bundle (HDB): Schema Mapping | Upgrade-Deploy-Release: MIP Integrated Releases Hospital Databases Bundle | Data governance: No description | Security & Monitoring: Data governance | |
| Hospital Databases Bundle (HDB) | Distributed local query engine over HPC | Local Database | T8.1.2 Installation of RAW on local computing infrastructure for hospital analytics requirements EPFL | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Data Factory (DF): HPC | Hospital Databases Bundle (HDB): Hospital Bundle Package | Upgrade-Deploy-Release: Micro-services | Data governance: No description | Security & Monitoring: Data governance | |
| Algorithm Factory (AF) | Hospital hubs | Workflow Engine: Woken | T8.1.2 Installation of RAW on local computing infrastructure for hospital analytics requirements EPFL | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Data Factory (DF): HPC | Hospital Databases Bundle (HDB): Hospital Bundle Package | Algorithm Factory (AF): Package of Algorithms as Docker images | Upgrade-Deploy-Release: MIP Integrated Releases Algorithm Factory | Data governance: No description | Security & Monitoring: Data governance | |
| Upgrade-Deploy-Release | SERVICES > Upgrade-Deploy-Release > MIP Integrated Releases Hospital Databases Bundle | MIP Integrated Releases Hospital Databases Bundle | T8.1.3 Installation and adaptation of SP8 bundle at local hospitals with upgrade support EPFL | Data Factory (DF): Workflow Engine | Hospital Databases Bundle (HDB): Hospital Bundle Package | Algorithm Factory (AF): Workflow Engine: Woken | Upgrade-Deploy-Release: Micro-services | |
| Algorithm Library | Disease signature: Distributed rule-based methods | Machine Learning Library | T8.3.5 Methods for distributed rule-based disease signature discovery JSI | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Algorithm Library: Predictive Models | Algorithm Factory (AF): Package of Algorithms as Docker images | Biological Signature of Diseases: Healthy Aging | |
| Algorithm Library | Longitudinal modeling: Tree-based and equation-based methods | Machine Learning Library | T8.3.8 Methods for disease progression modeling JSI | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Normative and aggregated clinical data: No description | Reference data: PPMI (Parkinson's Progression Markers Initiative), ADNI | Algorithm Library: Predictive Models | Algorithm Factory (AF): Package of Algorithms as Docker images | Biological Signature of Diseases: Healthy Aging | |
| MDR (Meta Data Register) | Ontologies for describing data on neurological diseases, patients | Ontology&Standards | T8.3.9 Ontologies for describing data on neurological diseases, patients JSI | MDR (Meta Data Register): Common Variables & Metadata | |
| Algorithm Library | GeneHeatMapper | Brain Anatomy | T8.3.10 Methods for linkage of local SNP data (individual SNPs) to imaging data through SNP LUMC | Web Exploration and Analytics: Image & Genetic Viewer | Algorithm Library: Brain Anatomy | |
| Algorithm Library | 3-C (Categorize, Cluster & Classify) | Statistical Analytics | T8.3.1 Tools to mine replicable selection and integration of hierarchical features, inter and across domains using FDR. TAU | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Normative and aggregated clinical data: No description | Reference data: PPMI (Parkinson's Progression Markers Initiative), ADNI | Biological Signature of Diseases: Alzheimer's Disease | |
| Algorithm Library | 3-C Longitudinal Modeling | Statistical Analytics | T8.3.1 Tools to mine replicable selection and integration of hierarchical features, inter and across domains using FDR. TAU | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Normative and aggregated clinical data: No description | Reference data: PPMI (Parkinson's Progression Markers Initiative), ADNI | Algorithm Library: Statistical Analytics | |
| Algorithm Library | Integrating multi-domain data | Statistical Analytics | T8.3.1 Tools to mine replicable selection and integration of hierarchical features, inter and across domains using FDR. TAU | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Normative and aggregated clinical data: No description | Reference data: PPMI (Parkinson's Progression Markers Initiative), ADNI | Algorithm Library: Machine Learning Library | Biological Signature of Diseases: Healthy Aging | |
| Algorithm Library | Transformations in medical big data | Statistical Analytics | T8.3.2 Developing methods for high-dimensional data with possible informative missing values TAU | Data Factory (DF): Data Quality Processes | Algorithm Library: Statistical Analytics | |
| Algorithm Library | Statistical procedures and workflows for missing values | Statistical Analytics | T8.3.2 Developing methods for high-dimensional data with possible informative missing values TAU | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Reference data: TBI (Traumatic Brain Injury), PPMI (Parkinson's Progression Markers Initiative), ADNI | Web Exploration and Analytics: Research & Modeling application | Algorithm Library: Statistical Analytics | |
| Algorithm Library | Clustering: incorporating Knowledge into the process | Statistical Analytics | T8.3.3 Introducing selective inference into dimensionality reduction and clustering methods TAU | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Normative and aggregated clinical data: No description | Reference data: PPMI (Parkinson's Progression Markers Initiative), ADNI | Algorithm Library: Statistical Analytics | Biological Signature of Diseases: Parkinson Disease | |
| Algorithm Library | Disease Signatures -concept and methodology | Statistical Analytics | T8.3.4 Statistical methods for 'Disease Signature' confidence assessment TAU | Algorithm Library: Statistical Analytics | Biological Signature of Diseases: Healthy Aging | |
| Algorithm Library | Integrating multi-domain data: Methods for redescription mining | Machine Learning Library | T8.3.6 Methods for redescription mining JSI | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Normative and aggregated clinical data: No description | Reference data: PPMI (Parkinson's Progression Markers Initiative), ADNI | Algorithm Factory (AF): Package of Algorithms as Docker images | Biological Signature of Diseases: Healthy Aging | |
| Algorithm Library | Integrating multi-domain data: Methods for heterogeneous networks | Machine Learning Library | T8.3.7 Methods for heterogeneous networks JSI | Reference data: PPMI (Parkinson's Progression Markers Initiative), ADNI | Normative and aggregated clinical data: No description | Algorithm Library: Predictive Models | Algorithm Factory (AF): Package of Algorithms as Docker images | Biological Signature of Diseases: Parkinson Disease | |
| Hospital Databases Bundle (HDB) | Nifti data source for local query engine | Local Database | T8.1.1 Infrastructure to support just-in-time analytics on raw medical data EPFL | Data Factory (DF): Data Integration | |
| Hospital Databases Bundle (HDB) | Genetic data data source for local query engine | Local Database | T8.1.1 Infrastructure to support just-in-time analytics on raw medical data EPFL | Hospital Databases Bundle (HDB): Schema Mapping | Algorithm Factory (AF): Model Scoring | |
| Hospital Databases Bundle (HDB) | Nifti library in local query engine | Local Database | T8.1.1 Infrastructure to support just-in-time analytics on raw medical data EPFL | Data Factory (DF): Data Integration | |
| Hospital Databases Bundle (HDB) | Genetic data library in local query engine | Local Database | T8.1.1 Infrastructure to support just-in-time analytics on raw medical data EPFL | Data Factory (DF): Data Integration | |
| Hospital Databases Bundle (HDB) | Secure connection between two hospitals. | Local Database | T8.1.2 Installation of RAW on local computing infrastructure for hospital analytics requirements EPFL | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Data Factory (DF): Data Anonymisation | Data governance: No description | Security & Monitoring: Data governance | |
| Data Factory (DF) | Anonymisation tests | Data Anonymisation | T8.1.3 Installation and adaptation of SP8 bundle at local hospitals with upgrade support EPFL | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Data Factory (DF): Data Storage | |
| Data Factory (DF) | Encrypted overlay network | Workflow Engine | T8.1.3 Installation and adaptation of SP8 bundle at local hospitals with upgrade support EPFL | Data Factory (DF): Data Storage | Hospital Databases Bundle (HDB): Hospital Bundle Package | Security & Monitoring: Data governance | |
| Data Factory (DF) | Remote starting of services | Workflow Engine | T8.1.3 Installation and adaptation of SP8 bundle at local hospitals with upgrade support EPFL | Hospital Databases Bundle (HDB): Hospital Bundle Package | Upgrade-Deploy-Release: Micro-services | Security & Monitoring: Data governance | |
| Hospital Databases Bundle (HDB) | Sharing processing among local hospital nodes | Local Database | T8.1.2 Installation of RAW on local computing infrastructure for hospital analytics requirements EPFL | Hospital Databases Bundle (HDB): Hospital Bundle Package | Upgrade-Deploy-Release: Micro-services | Security & Monitoring: Data governance | |
| Hospital Databases Bundle (HDB) | Master component | Federated Query | T8.1.5 Distributed complex workflow engine UoA | Hospital Databases Bundle (HDB): Hospital Bundle Package | |
| Hospital Databases Bundle (HDB) | Worker/ Bridge Component | Federated Query | T8.1.5 Distributed complex workflow engine UoA | Hospital Databases Bundle (HDB): Hospital Bundle Package | |
| Upgrade-Deploy-Release | Web portal connector component | MIP Integrated Releases Web Exploration & Analytics | T8.1.5 Distributed complex workflow engine UoA | Hospital Databases Bundle (HDB): Hospital Bundle Package | |
| Hospital Databases Bundle (HDB) | UDFs component | Federated Query | T8.1.6 User Defined Functions (UDFs) and query templates UoA | Hospital Databases Bundle (HDB): Hospital Bundle Package | Algorithm Library: Machine Learning Library | |
| Hospital Databases Bundle (HDB) | template composer component | Federated Query | T8.1.6 User Defined Functions (UDFs) and query templates UoA | Hospital Databases Bundle (HDB): Hospital Bundle Package | Algorithm Library: Machine Learning Library | |
| Hospital Databases Bundle (HDB) | Query template repository | Federated Query | T8.1.7 Query templates and workflow management UoA | Hospital Databases Bundle (HDB): Hospital Bundle Package | |
| Hospital Databases Bundle (HDB) | Management component of query template repository | Federated Query | T8.1.7 Query templates and workflow management UoA | Hospital Databases Bundle (HDB): Hospital Bundle Package | |
| Hospital Databases Bundle (HDB) | Access Rights Module (ARM) | Local Database | T8.1.4 Data Integration AUEB | Hospital Databases Bundle (HDB): Federated Query | Web Exploration and Analytics: Data Access | Security & Monitoring: User Management | |
| Web Exploration and Analytics | Access Rights Module (ARM) | Data Access | T8.1.4 Data Integration AUEB | Hospital Databases Bundle (HDB): Federated Query | Web Exploration and Analytics: Data Access | Security & Monitoring: User Management | |
| Hospital Databases Bundle (HDB) | Ontology-based data access Module (OBDA Module) | Schema Mapping | T8.1.4 Data Integration AUEB | MDR (Meta Data Register): Ontology&Standards | Hospital Databases Bundle (HDB): Schema Mapping | |
| Data Factory (DF) | Ontology-based data access Module (OBDA Module) | Data Integration | T8.1.4 Data Integration AUEB | MDR (Meta Data Register): Ontology&Standards | Hospital Databases Bundle (HDB): Schema Mapping | |
| Data Factory (DF) | Online Data Integration Module (ODIM) | Data Integration | T8.1.4 Data Integration AUEB | Data Factory (DF): Data Integration | Hospital Databases Bundle (HDB): Schema Mapping | |
| Hospital Databases Bundle (HDB) | Online Data Integration Module (ODIM) | Schema Mapping | T8.1.4 Data Integration AUEB | Data Factory (DF): Data Integration | Hospital Databases Bundle (HDB): Schema Mapping | |
| Hospital Databases Bundle (HDB) | Community Schema Curation Module (ComSchema) | Schema Mapping | T8.1.4 Data Integration AUEB | MDR (Meta Data Register): Ontology&Standards | Hospital Databases Bundle (HDB): Schema Mapping | |
| Data Factory (DF) | Community Schema Curation Module (ComSchema) | Data Integration | T8.1.4 Data Integration AUEB | MDR (Meta Data Register): Ontology&Standards | Hospital Databases Bundle (HDB): Schema Mapping | |
| Data Factory (DF) | Data Uploader | HPC | T8.4.5 Large-scale data analytics on massively parallel architecture ICL | Algorithm Library: Machine Learning Library | |
| Data Factory (DF) | Data Cleaning & Formatting | HPC | T8.4.5 Large-scale data analytics on massively parallel architecture ICL | Algorithm Library: Machine Learning Library | |
| Data Factory (DF) | Analytics Library | HPC | T8.4.5 Large-scale data analytics on massively parallel architecture ICL | Algorithm Library: Machine Learning Library | |
| Data Factory (DF) | Data Download | HPC | T8.4.5 Large-scale data analytics on massively parallel architecture ICL | Algorithm Library: Machine Learning Library | |
| Algorithm Library | Brain Scale High Performance Deep Phenotyping | Brain Anatomy | T8.4.1 Brain scale high performance deep phenotyping CHUV | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Reference data: Atlas for Brain Disease | Data Factory (DF): Data Storage | |
| Algorithm Library | Brain Scale Disease Bayes Modelling | Biological Diagnostic Tools | T8.4.2 Brain scale disease bayes modelling CHUV | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | MDR (Meta Data Register): Common Variables & Metadata, Ontology&Standards | Algorithm Factory (AF): Package of Algorithms as Docker images | Papers: Bayesian computation in MIP | |
| Algorithm Library | Tools for Macro- to Micro-Scale Data Analysis and Atlasing | Brain Anatomy | T8.4.3 Tools for macro- to micro-scale data analysis and atlasing CHUV | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | Reference data: Atlas for Brain Disease | Data Factory (DF): Workflow Engine | Algorithm Factory (AF): X-Validation module | |
| Web Exploration and Analytics | Hospitals Information System Database | Knowledge Base Application | T8.2.2 Hospitals and information system departments relationship management UNIGE | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | MDR (Meta Data Register): Ontology&Standards | Hospital Databases Bundle (HDB): Hospital Bundle Package | |
| Community | Interactions with research initiatives | Clinical demonstrators | T8.2.3 Research initiatives UNIGE | Upgrade-Deploy-Release: MIP Integrated Releases Web Exploration & Analytics | User Training & Communication: No description | Security & Monitoring: User Management | |
| Web Exploration and Analytics | Knowledge Base | Knowledge Base Application | T8.5.1 Web-based medical data analyses foundation UNIGE | User Training & Communication: No description | progress reports: No description | Guide Book: No description | Deliverables: No description | |
| Upgrade-Deploy-Release | mip-microservices-infrastructure | Micro-services | T8.5.2 Web API and microservices architecture for community driven data analyses and workflows CHUV | Upgrade-Deploy-Release: QA (Quality Assurance) Tools | |
| Web Exploration and Analytics | Frontend and portal-backend Descriptive Stats and Stats Viewer | Epidemiological Exploration (EE) | T8.5.1 Web-based medical data analyses foundation CHUV | MDR (Meta Data Register): Common Variables & Metadata, Ontology&Standards | Algorithm Library: Statistical Analytics | Algorithm Factory (AF): Workflow Engine: Woken | Upgrade-Deploy-Release: MIP Integrated Releases Web Exploration & Analytics | Community: Clinical demonstrators | User Training & Communication: No description | |
| Web Exploration and Analytics | Frontend and portal-backend Model Configuration | Model Configuration | T8.5.1 Web-based medical data analyses foundation CHUV | MDR (Meta Data Register): Common Variables & Metadata, Ontology&Standards | Algorithm Library: Machine Learning Library | |
| Web Exploration and Analytics | Experiment Builder | Experiment Builder | T8.5.1 Web-based medical data analyses foundation CHUV | Web Exploration and Analytics: Data Access | Biological Signature of Diseases: Healthy Aging | |
| Web Exploration and Analytics | Experiment Builder Parameter setting | Experiment Builder | T8.5.1 Web-based medical data analyses foundation CHUV | MDR (Meta Data Register): Common Variables & Metadata, Ontology&Standards | Upgrade-Deploy-Release: QA (Quality Assurance) Tools | User Training & Communication: No description | Biological Signature of Diseases: Healthy Aging | |
| Web Exploration and Analytics | Information and Scientific references | Information and Scientific references | T8.5.1 Web-based medical data analyses foundation CHUV | MDR (Meta Data Register): Common Variables & Metadata, Ontology&Standards | Upgrade-Deploy-Release: MIP Integrated Releases Web Exploration & Analytics | Data governance: No description | Community: Clinical demonstrators | User Training & Communication: No description | Security & Monitoring: Data governance | Biological Signature of Diseases: Healthy Aging | |
| Data Factory (DF) | Workflow tools for Genetic and Neuroimaging | Data Pipeline processes | T8.5.2 Web API and microservices architecture for community driven data analyses and workflows CHUV | Data Factory (DF): HPC | Upgrade-Deploy-Release: MIP Integrated Releases Hospital Databases Bundle | |
| Data Factory (DF) | Data Quality process | Data Quality Processes | T8.5.2 Web API and microservices architecture for community driven data analyses and workflows CHUV | Hospital Data: Lille Hospital, Tel Aviv Hospital, Milano Hospital, Freiburg Hospital, CHUV Hospital | MDR (Meta Data Register): Common Variables & Metadata, Ontology&Standards | Normative and aggregated clinical data: No description | Reference data: Atlas for Brain Disease, TBI (Traumatic Brain Injury), PPMI (Parkinson's Progression Markers Initiative), ADNI | Data Factory (DF): HPC | Upgrade-Deploy-Release: MIP Integrated Releases Algorithm Library | |
| Algorithm Factory (AF) | woken | Workflow Engine: Woken | T8.5.2 Web API and microservices architecture for community driven data analyses and workflows CHUV | MDR (Meta Data Register): Common Variables & Metadata | Algorithm Library: Machine Learning Library | Algorithm Factory (AF): Package of Algorithms as Docker images | Upgrade-Deploy-Release: MIP Integrated Releases Algorithm Library | |
| Algorithm Factory (AF) | woken-validation | X-Validation module | T8.5.2 Web API and microservices architecture for community driven data analyses and workflows CHUV | None |
| Algorithm Factory (AF) | functions-repository | Package of Algorithms as Docker images | T8.5.2 Web API and microservices architecture for community driven data analyses and workflows CHUV | Algorithm Library: Machine Learning Library | |
| Algorithm Library | base-docker-images | Machine Learning Library | T8.5.2 Web API and microservices architecture for community driven data analyses and workflows CHUV | Upgrade-Deploy-Release: QA (Quality Assurance) Tools | |
| Algorithm Factory (AF) | Integration of Spark | Workflow Engine: Woken | T8.5.2 Web API and microservices architecture for community driven data analyses and workflows CHUV | Algorithm Factory (AF): PFA translation | Upgrade-Deploy-Release: QA (Quality Assurance) Tools | |