Tieto Intelligent Wellbeing

Predictive and prescriptive use of healthcare and welfare data for more effective treatment

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Real time information in healthcare and welfare is moving into predictive and prescriptive use of data. This is made possible by increasing the number of sources and the capability to master big data for analysis with highly sophisticated algorithms as well as artificial intelligence. As healthcare and welfare needs rise around the world, it will become more crucial to understand how to better tailor solutions to optimise both the costs and the quality of services.

Barriers to data utilisation

The efficient use of healthcare and welfare data is hindered by a couple of barriers today. One challenge is that data is typically scattered across several information systems and databases within a single organisation. Another issue that slows down data utilisation is poor quality of data from a data analytics point of view. Currently, large amounts of healthcare and welfare data are only available in human-understandable format, making it difficult for analytics solutions to interpret the data and deliver useful insight.

To be able to make decisions based on data, data must be reliable, up-to-date, accessible and - most of all - the metrics and calculation models used in data utilization need to support processes without gaps. The challenge is that large parts of welfare and healthcare datasets are in unstructured and inflexible formats.

Healthcare and welfare data are also under strict data privacy regulation. The criticality of the data means a lot of requirements and limitations are imposed on the solutions utilising data. At the same time, willingness to use the data by professionals and awareness of individuals' right to own their data are increasing dramatically all the time.

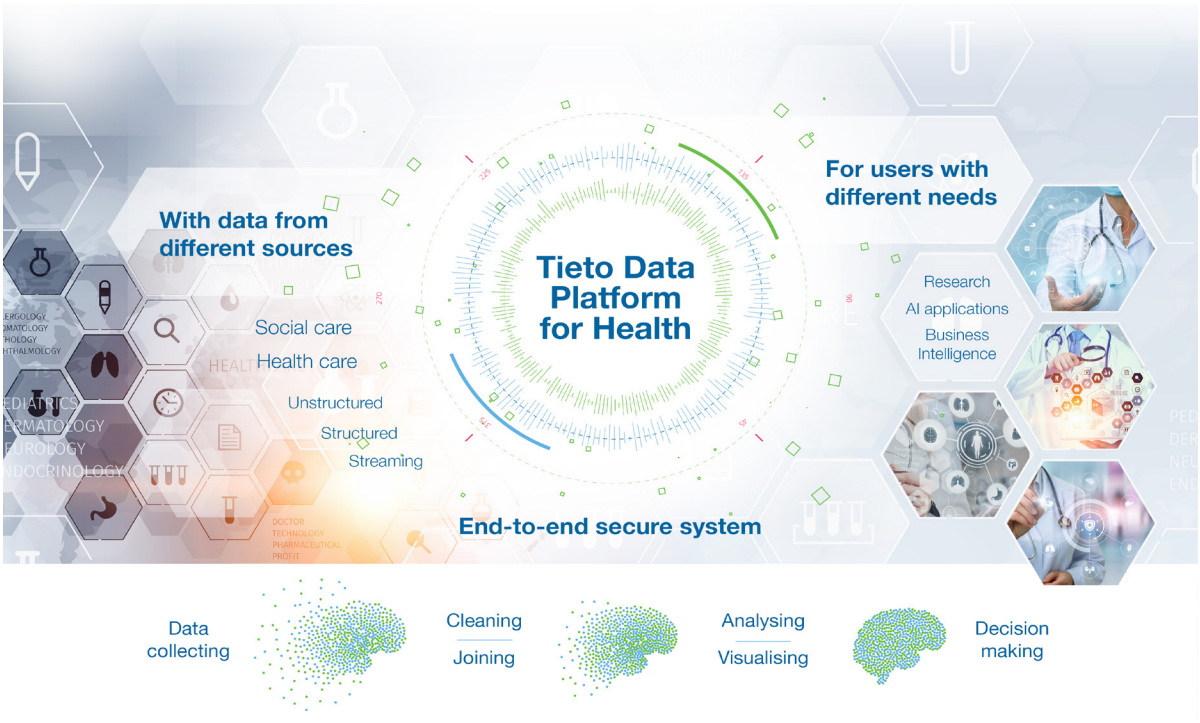
Tieto Intelligent Wellbeing as service

Tieto Intelligent Wellbeing is a modular, cloud-based service for providing Artificial Intelligence (AI) capabilities to healthcare and welfare professionals. It enables utilisation of healthcare and welfare data in order optimise individual wellbeing, while also cutting the cost of healthcare and welfare.

When data is collected from organisation's databases into one data lake, it allows for a powerful environment for research and development, providing a flexible platform for data analysis and artificial intelligence applications. Tieto Intelligent Wellbeing is compliant with data privacy and healthcare data regulations.

Tieto Intelligent Wellbeing provides the following capabilities:

- Artificial Intelligence (AI) capabilities as a Service, including infrastructure,
- data analytics platform, operations and support in one package
- Transparent consumption-based pricing that scales to the needs of small and large organizations
- Service level and capacity are planned according to customer's needs
- Security and Privacy services
- Customer data is stored in EU/ETA area and service is provided by EU-based personnel
- Supported, operated and developed by dedicated Tieto Intelligent Wellbeing DevOps team
- Platform is open for customers' own or third-party data analytics and data integration modules



Features

Data storage from source systems to Apache Hadoop and Microsoft Azure cloud-based big data environments

- Support for all types of data
- Support for REST, SOAP, JDBC and SFTP interfaces for data transfers
- Fast streaming data integration with Apache Kafka
- Compatible with various data integration platforms

Data is protected according to EU GDPR requirements

- Data is stored in EU/ETA area
- Data is owned and controlled by the customer. Tieto operates as Data Processor.
- All stored data is encrypted (256bit AES)
- All data transfers are protected with TLS 1.2 or newer
- Data pseudonymisation and anonymisation features included
- User access and usage of data is logged and monitored
- Product is CE certified for medical use according to
- EU Medical Device Directive level 1 (coming December 2017)

Secure multi-actor environment enables ecosystem building

- Own isolated work environments for researchers, developers and analytics build on Apache Hadoop and Microsoft Azure cloud capabilities
- Access permissions granted by customer
- Unlimited numbers of isolated work environments can be created

Built-in AI capabilities for research and development

- Data scientists and developers can use their preferred tools
- Platform provides tools Apache Hive, Apache Spark, Jupyter Notebooks by default
- Applications can access data directly via Hadoop or via tailored application databases, streaming data pipeline or search engines like ElasticSearch

Scalable solution with full service

- Flexible scaling up and down of resources
- Unlimited number of isolated work environments, data integrations and operated analytics applications
- All operated services are monitored and supported by Tieto DevOps teams
- Third party data integrations and applications can be operated under the service

Modules

- Platform provides frameworks for analytics modules with application-based user
- management
- Ready analytic modules provided for several purposes and to new ones to be developed continuously
- Healthcare and welfare open text analytics is available

Want to know more?

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