

We manage the information flow to accelerate the energy revolution

The digital integration hub Utilihive

Digital integration hub built for utilities delivering electricity, gas, distributed heating and water

Connects enterprise data and machine data

Replaces the need for an integration project delivered by a system integrator



What is the Future Role for Your Utility?

The future role for utilities in the energy revolution is not determined yet.

CATEGORY 1

Traditional Utility

A few utilities will probably keep on going with an aging IT infrastructure and dedicated focus on traditional grid operation.

CATEGORY 2

Platformed Utility

Other utilities will grab the opportunity to become a platformed utility driving innovation by integrating energy data across the entire value chain.

The Challenge of Accessing Data

Most utilities spend 80% of their IT budget for data driven business models on accessing data

20% spent on new IT solutions

IT budget

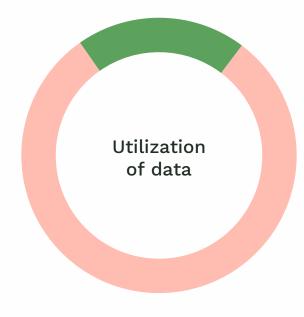
80% spent on existing IT solutions

20% of time spent on machine learning and artificial intelligence

Machine learning and artificial intelligence applications

80% of time spent on accessing data

20% utilized data



80% dark data

Digital Platform Utilities

Digital platform utilities succeeding with data driven business models make data easily available to their ecosystem of technology providers

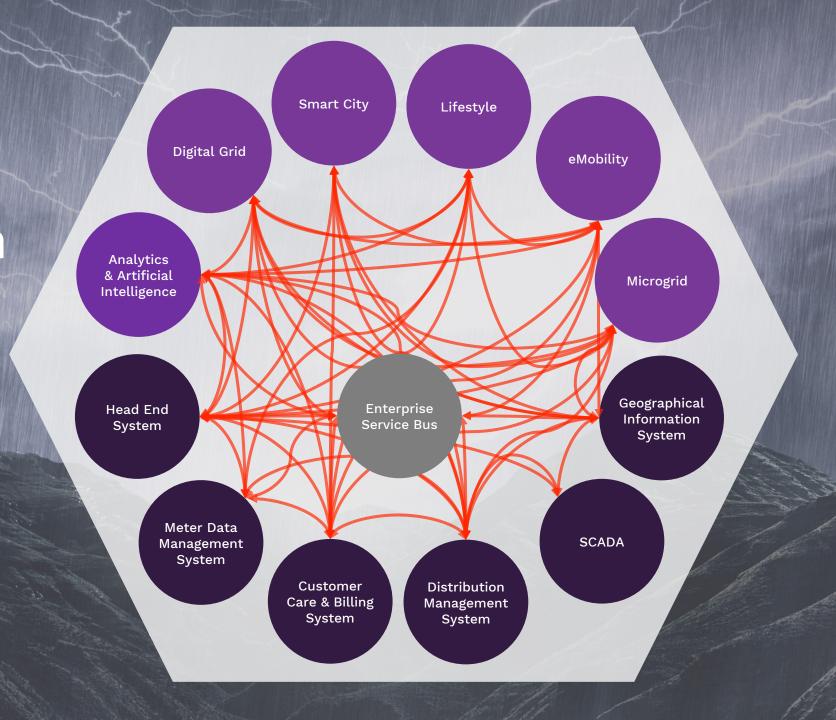
80% of time spent on 80% spent on 80% utilized data machine learning and new IT solutions artificial intelligence Machine learning and artificial Utilization IT budget of data intelligence applications 20% spent on 20% of time spent on 20% dark data existing IT solutions accessing data

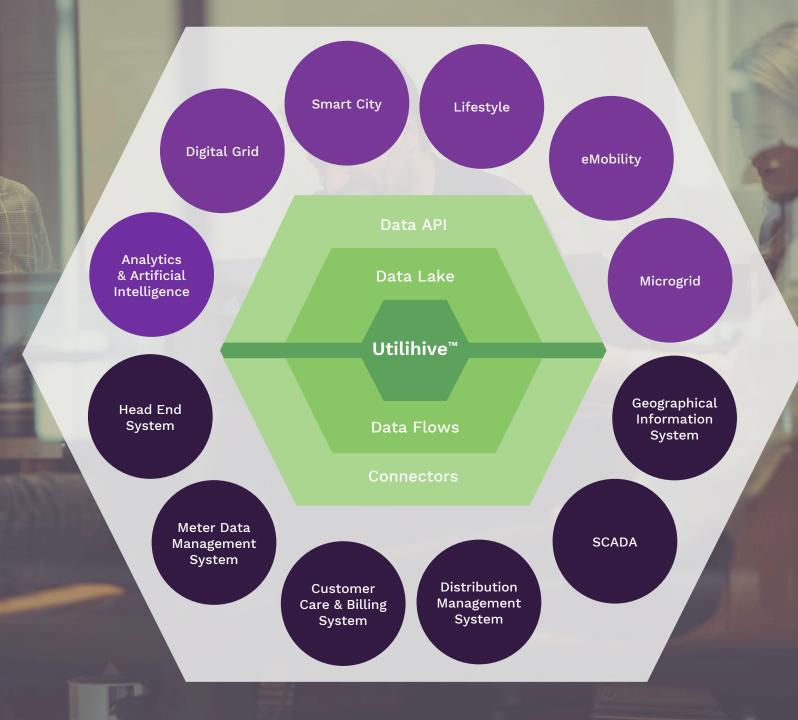
Why is Digital Transformation Failing?

Enterprise Service Bus (ESB) with **expensive** development, high operating costs and low flexibility for unlocking data.

High degree of **point-to-point integrations** because of high costs associated with ESB.

Limited opportunities for the **new breed of technology companies** to **access data in systems of record**.





Utilihive

A digital integration hub is the most vital component for data driven business models, according to Gartner

Hybrid capabilities utilizing on premise software and cloud computing

Integrate machine data and enterprise data

Delivered as a service with **fixed** subscription fee



Connects new software solutions **in days** instead of spending months on custom development

Required updates are included in the Utilihive subscription

Smart City Lifestyl

Digital Grid

eMobilit

Data AP

Data Lake

Microgri

Utilihive™

Data Flows

Connectors

Meter Data Management System

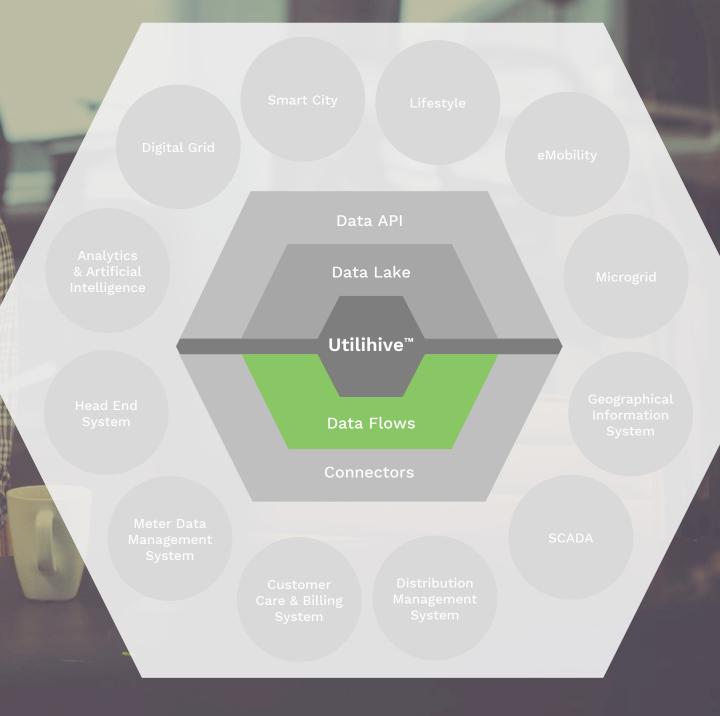
> Customer Care & Billing System

Utilihive Data Flows

Out-of-the box integration applications supporting business processes such as meter-to-cash

Easily share data from your smart metering infrastructure with meter data management systems, DMS, SCADA and the new breed of technology solutions based on artificial intelligence.

No lengthy integration project and coding is required



Utilihive Data Lake

The new breed of technology providers enabling the data driven utility require access to data across a wide range of legacy systems

Optimized storage for fast data and analytical data to minimize costs and to deliver required performance

Most data is stored in the CIM data format, the global industry standard for utilities

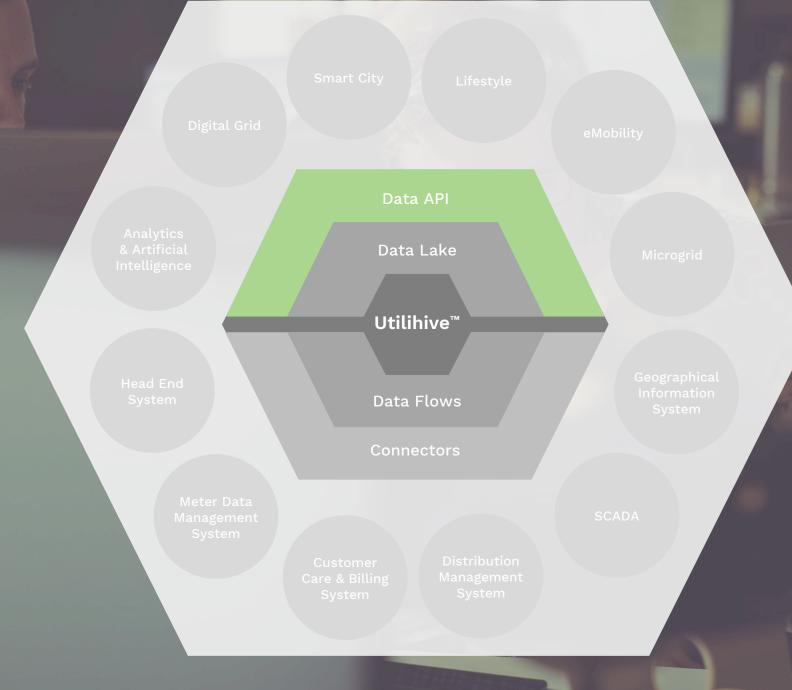
Data API Data Lake Utilihive™ Data Flows

Utilihive Data API

Your own applications or third-party applications can access all required data across legacy systems on a uniform and modern REST API

High performant data delivery built for applications utilizing **machine learning** and artificial intelligence

Includes an advanced API gateway for uniform control of access to data



Utilihive is Powered by Microsoft Azure

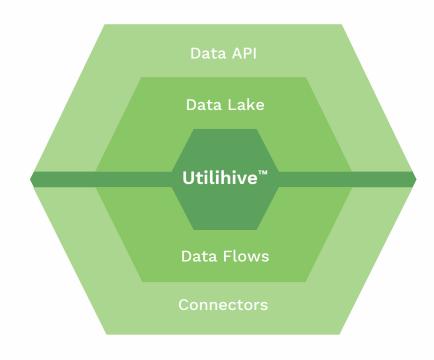
Built with cloud native components to scale in the cloud

Utilihive Data Lake and Utilihive Data API

Utilihive Data Lake supports multiple underlying storage technologies like Azure Synapse, Azure Cosmos DB, Azure HDInsight, Azure Blobs and Azure SQL Database. Azure Databricks is used to support machine learning and analytics.

Utilihive Data Flows and Utilihive Connectors

The core components in Utilihive is running on containers on Azure Kubernetes Service. Azure IoT Hub and Azure Event Hubs combined with Azure Functions is used for streaming ingestion and analytics.





Gartner

Cool Vendor 2018



"Application leaders responsible for integration strategy and infrastructure for utility companies should evaluate Greenbird's domain-specific iPaaS offering, Utilihve, for time-to-market-constrained smart metering and smart grid initiatives for which there is substantial integration work to be performed."

"Cool Vendors in Application Architecture, Infrastructure and Integration" by Eric Thoo, Massimo Pezzini, Aashish Gupta and Bindi Bhullar , May 2018

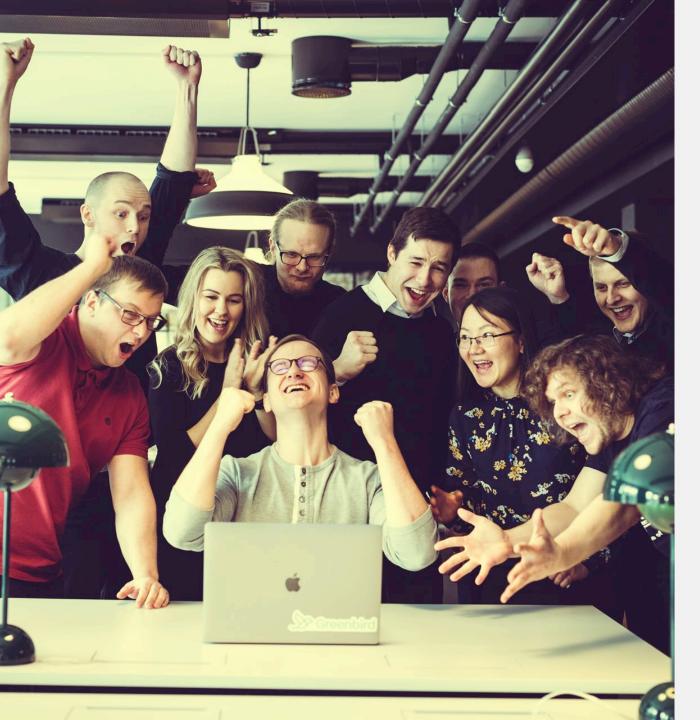
Utilihive Partner Ecosystem

Utilizing the **new breed of technology companies** that is accelerating the energy revolution will be **vital for digital utilities**.

Seamless data exchange delivered by Utilihive will empower utilities to move fast and drive innovation.

Technology and services from partners in the Utilihive Partner Ecosystem can be configured in days instead of months with traditional system integration





100 % Focused on Accelerating the Energy Revolution

2010 Founded to develop Utilihive

2013 80 % market penetration in Norway

2015 Signed Utilihive contract with Smarthub

2017 Utilihive contract in the Middle East

2018 Signed Utilihive contracts with EnBW, TPC

2020 5 million Euro Series B venture capital funding







