

asset *hive*

The Digitalised World

A GUIDE TO DATA HARMONISATION

Volume 2



DATA HARMONISATION

Data harmonisation in the workplace acts as a magnifying glass, bringing all data forms into one focus while allowing you to see the whole picture in much greater detail.



What is it?

Data harmonisation is a digitally driven process that gathers information from a wide range of sources, including registers, ERP systems and IoT applications amongst others, then integrates it into a cohesive, consumable data set.

It is used in businesses and industries of all sizes, helping companies to optimise processes, make better decisions, improve safety, and improve financial outcomes.

The ultimate goal of data harmonisation is to create clean data – information that adheres to the same broad standard and can be displayed together so that trends and insights can be gleaned for decision-makers.

Clean data provides a basis for data science to be used to draw insights and gain as much knowledge as possible for decision making.

To better understand this process, imagine a modern passenger aircraft which has sensors to help maintain its position in the sky.

On-board computers constantly collect and harmonise information from different sources around the aircraft to create a picture of what's happening and display it in an easy to understand snapshot.

This allows the pilots to make the best decisions about how to control the aircraft safely and fly it in the most optimal manner.

Without this kind of harmonisation, the pilots and the computers would be locked in to analysing a series of data sets separately, losing time and focus as they switched between them.

Applied to an oil & gas platform, mine site or industrial processing plant context, the plant operators act as 'pilots' who need harmonised data from the plant's sensors to help optimise efficiency, safety, and productivity.

Why should I care?

It's simple - because company efficiency, productivity and finances are at stake.

Information that is not harmonised can produce distorted results that don't reflect the widest possible view that could be achieved.

This is because information is often gathered and stored in different ways, whether it's across formats like digital or paper records, varying file types or even labelled using non-standard naming conventions.

To better understand this, imagine a regular computer. Now, imagine if the computer was unable to understand all the different programming languages the applications were written in.

Your computer might be capable of processing some programs' code to make it legible, but others might just display as a series of illegible symbols.

The formatting would be a mess, it would save in unrecognisable formats and hence you would be unable to trust the results.

In other words, you would have a quagmire of unreliable information unfit for purpose.

Harmonised data on the other hand, means all of the information is uniform. Even though data may come from different sources, once it is harmonised, operators can make good decisions knowing the data is true.

Through creating a common data set for your company's information, the use of data harmonisation arms you with a sharp tool for making positive changes, whether it's identifying inefficiencies, reinforcing successful processes, or boosting financial outcomes.

What can I do about it?

Knowledge is power. By engaging data harmonisation you are putting your company's data to its best use. Set your company for success by following these key steps:

01

Implement a data hub

Consider how investing in a data hub will help your business execute on its data strategy. A data hub enables the linking of data to the change of action and serves as the enabler of data harmonisation. A modern data hub will integrate your data sources into a harmonised view that acts as a stepping stone for data quality.

02

Organise and harmonise

Data harmonisation is the foundation for data quality. Harmonised data is clean data where the data has been processed, converted to a common format as needed, and pooled. Now, every part of an organisation and its integrated technologies including predictive analytics, AR/VR, machine learning, artificial intelligence can have access to the same up-to-date data.

03

Apply data science

Data science is the process of gaining as much knowledge or insight from data as possible. It relies on applying analytics so that actionable insights can be drawn but it also relies on harmonised data which is the foundation for data-driven decision making.

Innovator's checklist

Identify your data sources – Determine the multiple sources of data within your business. Your data sources may include ERP systems, engineering databases, IoT driven technology such as sensors, or ontology-based big data platforms. These sources should feed into a data hub that provides context in a consolidated data set.



Establish how your data will be used – Understand how the data will be used to feed specific workflows that necessitate action to be taken. This is the true process of value-adding your data, making it useful for generating insights.

Define how your data will be collected – Consider how the data will be collected as part of workflow execution and which applications will use the data. This process should also give consideration to the way in which the workflow needs to be redesigned to align with how the data will be collected. Fundamentally, the workflow should be redesigned so that the activities which form part of the workflow are radically improved in their execution.



Link data to workflows - Linking data to redesigned workflows ensures that data is value-added and put into action. By inference it is also linked to the workflow or process owner which means the data will be maintained clean throughout its lifecycle.

Who is Silverhorse?

Silverhorse Technologies is on a mission to add value for our customers and bring the transformative benefits of digitalisation to large-scale assets.

Our AssetHive platform is a next-generation connector/middleware data hub technology with an embedded workflow architecture which enables efficient, repeatable, accountable and auditable workflows.

AssetHive is an intelligent data hub, customised around your asset to enhance operational efficiency in a low risk and scalable way.

The data hub enables your digital strategy by implementing full cycle, optimised operational workflows. It delivers data insights where they are needed, with transformative, value-adding results.

RECOMMENDED READING



Volume 1
A GUIDE TO DATA HUBS



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