# Increasing Asset Availability Through Whole Life Supportability Expertise and Data Science

Chris McMullan & Andrew Knott

16 Jan 2024

TEAM DEFENCE INFORMATION

AllanWebb

# AGENDA

Our Mission

How We Utilise AI and Data Science

Collaboration Opportunities

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BARROW OFFICE

HEAD OFFICE

01 Inception

02 Stonehouse incorporation

03 Business Reset due to Codification Contract

04 Handbooks Management Contract (HMC) & other MoD Contracts (OI etc.)

05 Marine Systems Support Partner (MSSP) Programme Delivery Partner (PDP) Master Record Data Centre (MRDC)

06 T31, Ajax, Typhoon, Land Equipment Operating Centre (LEOC), Technical Publications contracts. T26 Transition Tool.

Training & Asset Management capabilities developed

1960    1984    2013    2015    2017 & 2018    2021

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# DIAMONDWebb™

Colour, Clarity, Cut, Carat

**Maintenance Instructions**

**Supply Chain Optimisation**

**Obsolescence Management**

**Procurement**

**Document Management**

**Configuration**
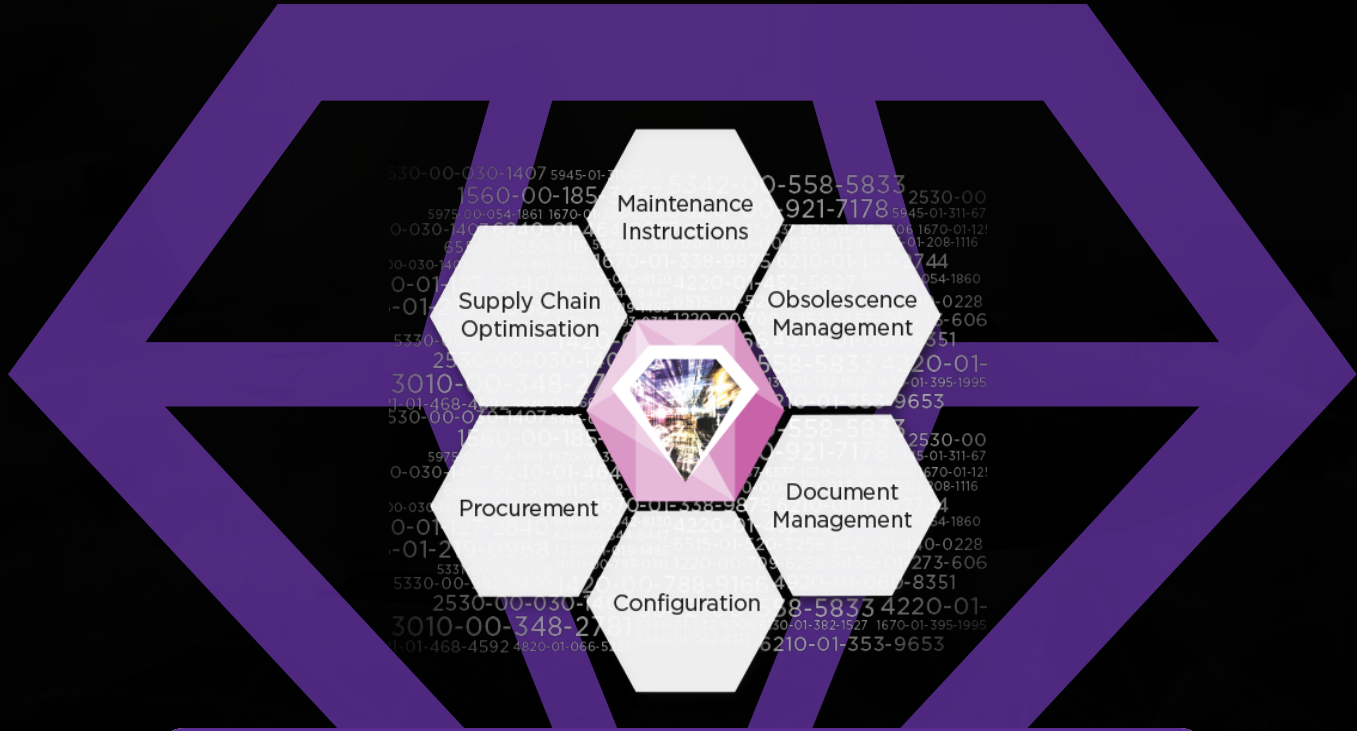
## 4 Cs of DIAMONDWebb™ Quality

**Colour** (cleanliness of the data)

**Clarity** (completeness of the data)

**Cut** (coverage of the data)

**Carat** (size of the data)

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**Exploring the role of AI & Data Science at Allan Webb**

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**What is Data Science?**

## What Capabilities can we leverage?

The field has changed rapidly over the last 10 years.

We excel at rapidly learning and implementing new methodologies and technologies.

Therefore, we have a wide range of tools at our disposal:

- AI & Machine learning
- Generative AI – Large Language Models LLMs (GPT etc.)
- Natural Language Processing (NLP)
- Audio Processing
- Computer Vision
- Predictive analytics
- Statistical and Data analysis
- Data Visualisation

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# What Data Science isn't

❌ A solution on its own without context and collaboration

❌ Blind to the business realities

❌ Garbage In, Garbage Out

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How do we utilise Data Science at Allan Webb?

# Case Study

Extracting insights from AESPs with AI and Automated Processes

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# Smart Search AESPs

Features and Benefits

Uses free-text queries so engineers can better describe the exact information they are looking for.

Finds relevant sections in publications based on the user's query. Retrieves the correct document and page number.

Returns the answer directly to the user. For example, a maintenance procedure with the associated steps.

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# Smart Search AESPs

Demo tool with
Land Rover data

Showing information
on page 171

## FUEL DELIVERY SYSTEM – V8

### V8 Fuel Delivery System

**Fuel Delivery System Components**

The Land Rover V8 fuel delivery system comprises the following main components:

- Saddle type fuel tank
- Fuel injectors
- Non return fuel rail
- Fuel pump
- On board refuelling vapour recovery system (NAS only)
- Tank leakage detection system (NAS only).

**Fuel Tank**

The fuel tank is constructed from moulded plastic and is mounted under the rear seat just forward of the rear axle. The fuel tank has a 100 Litre capacity and activates a low fuel warning lamp in the instrument pack when there is 12 litres in the tank. The tank is of the saddle tank design with a siphon jet pump in the left side to transfer fuel to the right side where the fuel pump is mounted. The fuel is delivered along pipes that run along the underside of the vehicle to a fuel rail mounted on the engine.

**Fuel Filter**

M19 3555
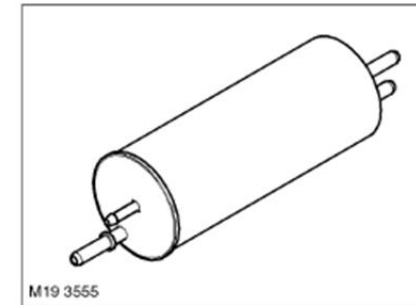
The fuel filter/pressure regulator is mounted on the lower right hand side of the tank. The charcoal canister is mounted at the front of the tank on the right hand side. The components are covered by a plastic under tray to protect them when driving off-road. The undertray has an inspection cover to enable access to the charcoal canister and the fuel filter.

**Fuel Pump**

The fuel pump comprises a pump, sender unit, pot and venturi. The unit has an integral filter inside the pot. The pump unit operates at 3.5 bar for 170–205 l/hr (the V8 has a maximum operating requirement of 90 l/hr).

The pump is controlled by the ECM via the fuel pump relay.

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# Collaboration Opportunities

Partnering for the Future

Chris.McMullan@allanwebb.co.uk

Andrew.Knott@allanwebb.co.uk

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# ShareAspace

# **Eurostep & ShareAspace**

Who are we and what we do?

2025-10-16



**Simon Pettersson**
Director Defence Industry Vertical

# Eurostep

**eurostep** **is world class in**

- Product data technologies and related standards
- Product data sharing across disciplines, enterprises and over time
- Managing change across heterogeneous systems and organizations

## Experience

- 25+ years of experience of customer projects, international standardization and software product development with ShareAspace

**Connect your data across systems & teams in:**
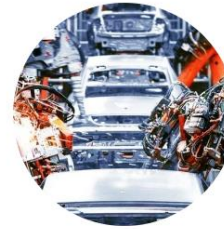
**Manufacturing**
Take control of your manufacturing data and form a resilient supply chain
Learn more

**Defence**
Secure collaboration for defence contracts and offset deals
Learn more

**AEC & Plant**
Collaborate throughout the complete lifecycle of buildings & plants
Learn more

**Design**
Suppliers
- Management
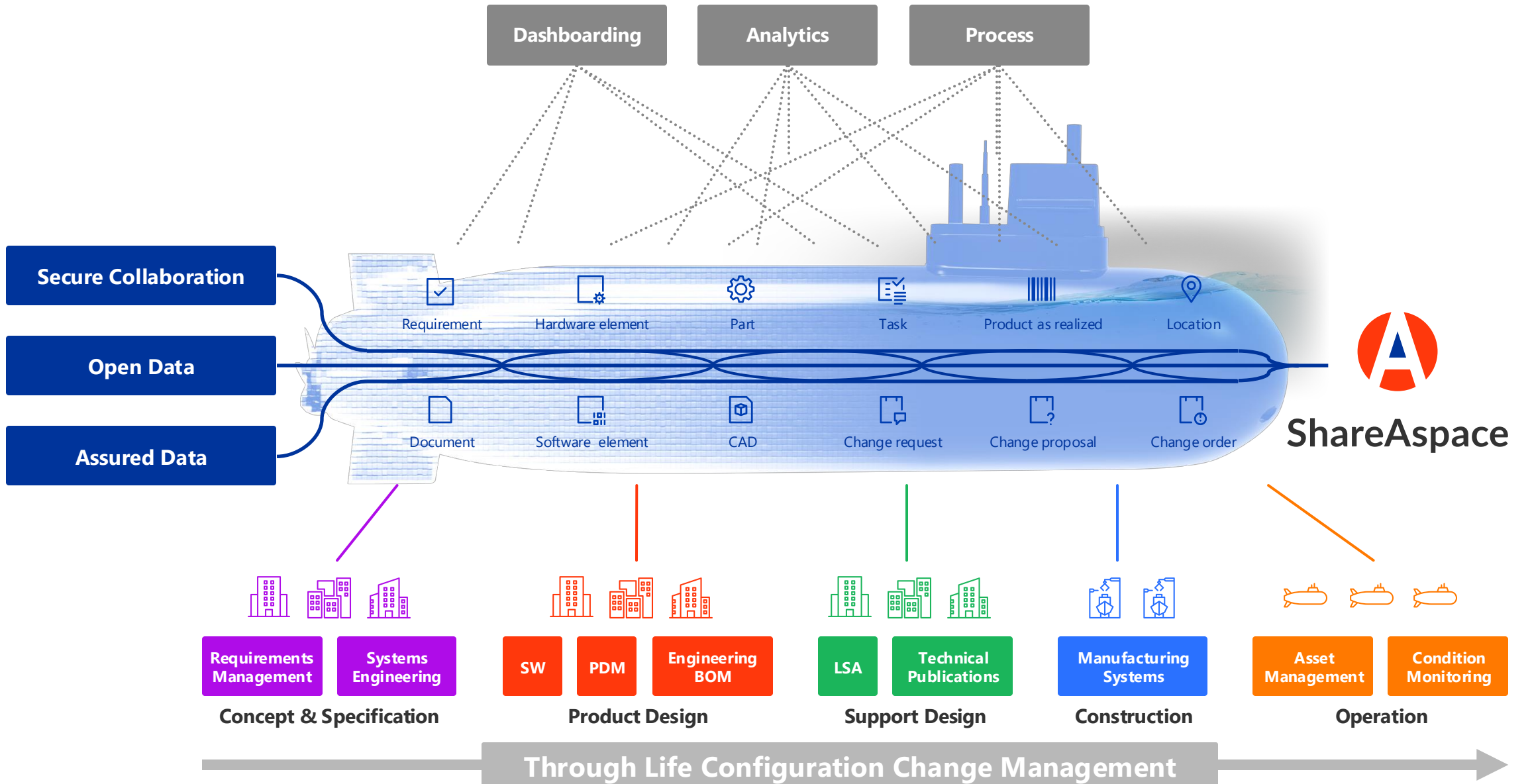- Engineers

**Manufacturing**
Local manufacturing
- Suppliers
- Product managers
- Operations managers

**Service**
Local service provider
- Service professionals
- Customer care

ERP    PDM, SE etc.    PLM

In-house systems (Internal network)

Dashboarding

Analytics

Process

Secure Collaboration

Open Data

Assured Data

Requirement

Hardware element

Part

Task

Product as realized

Location

Document

Software element

CAD

Change request

Change proposal

Change order

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Requirements Management

Systems Engineering

SW

PDM

Engineering BOM

LSA

Technical Publications

Manufacturing Systems

Asset Management

Condition Monitoring

**Concept & Specification**

**Product Design**

**Support Design**

**Construction**

**Operation**

**Through Life Configuration Change Management**

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# ShareAspace product suite

**Server**
## ShareAspace

**Through Life Configuration Change Management for Digital Twins and the Digital Thread**

- Enables seamless integration of processes and systems across business domains and organisation boundaries.

- A robust, configurable tool for secure multi-enterprise collaboration.

**D2M**
## ShareAspace

**Streamline collaboration between OEMs, Primes, Suppliers, & Partners**

- Streamline your product data supply chain collaboration and data acquisition processes while safeguarding data.

- **Benefits:** Secure and efficient collaboration between Operators, Primes and suppliers.

**ExC**
## ShareAspace

**Controlled data sharing across global value chains**

- Simplify and secure compliance with export and import regulations.

- **Benefits:** Protect sensitive information and ensure regulatory alignment.

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# ...deployed at Customers

# ShareAspace case studies

# Kockums – PLM Backbone

**Scope:**

- Configuration Management in a PLM backbone

**Challenge:**

- Significant change in IT systems architecture going from document- to model-based development.

- Need to enable cross discipline work in order to reach targets in cost and lead time reduction.

**Solution:**

- Using ShareAspace as an information backbone to integrate existing design and manufacturing tools

**Business Benefit:**

- Standards based information model enables cross functional integration

- Backbone enable continuous use of Best-of-breed tools in design and manufacturing engineering

- Integration with a memory

**9 years of operation**

ShareAspace

# ShareAspace case studies

# Kongsberg – Configuration Management

**Scope:**

- Configuration Management and External Collaboration through product lifecycle

**Challenge:**

- Share product data with customers and partners

- Consolidation of as-design, as-built and as-maintained

**Solution:**

- Configuration Management repository and customer Collaboration Portal using ShareAspace

**Business Benefit:**

- Improved quality in information deliveries

- Reduced manual work creating information packages

- More efficient partner and customer communication

# 3 Million
## Individuals

**ShareAspace**

# ShareAspace case studies

# Damen Naval – Collaboration with Equipment suppliers

**Scope:**

- Vendor data delivery solution for ship design projects

**Challenge:**

- Secure and validated reception of deliverables from Equipment Suppliers

- To ensure supplier deliverables are available when required by engineering

**Solution:**

- Supplier document collaboration solution using ShareAspace Design to Manufacturing

**Business Benefit:**

- Improved quality in information deliveries

- Reduced manual work to expedite supplier deliveries and follow up on internal reviews

- More efficient supplier communication

## +100 Suppliers

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# ShareAspace case studies



Multi-Class

# UK MoD – Rosetta

**Scope:**

- A common Support Information and Knowledge Management (SIKM) system across the fleet of Classes through life

**Challenge:**

- Controlled Collaboration of a complex, changing data set across the design authority and operating partners

- Consolidation and configuration control of as-design and as-maintained

**Solution:**

- Configuration Management repository with data feeds from various design environments

**Business Benefit:**

- Architecture enables build information hand over

- Reduced manual work creating information packages

- Improved data quality

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# Thank you for listening!

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# SecureCloud+

**Enhanced collaboration for advanced defence**

www.securecloudplus.co.uk
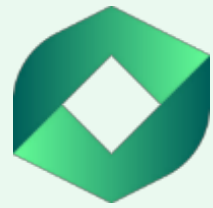
# Org 1
## Profile 1

# Org 2
## Profile 2

# Org 3
## Profile 3

## Access Communities

**Org 1 Community**
- *Users*
- *UADs*
- *Voice/VTC*
- *Chat*

**Org 2 Community**
- *Users*
- *UADs*
- *Voice/VTC*
- *Chat*

**Org 3 Community**
- *Users*
- *UADs*
- *Voice/VTC*
- *Chat*

**The Access Layer**
- *All communities can communicate across this layer at SEC via Voice/ VTC/Chat (non- project related)*
- *Catalogue of UADs access devices of Web Access*
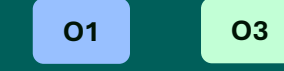
## Project Communities

**Project A**

`O1`  `O2`
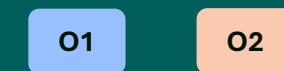
Only Org 1 & 2 have access to this project

**Project B**

`O1`  `O2`  `O3`
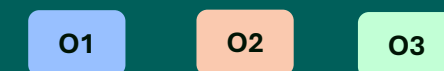
All Orgs have access to this project

**Project C**

`O1`  `O3`

Only Org 1 & 3 have access to this project

*Examples of Project Communities*

**The Project Community Layer**
- *All authorised project users can communicate across this layer on specific project related info at SEC via Voice/VTC/Chat*
- *Catalogue of UADs access devices or Web Access services*
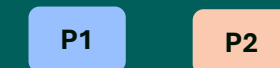- *MS Office & Email*
- *File Storage*
- *Application Software Catalogue*

## Project Data

**Data Pool**

`P1`
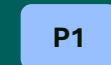
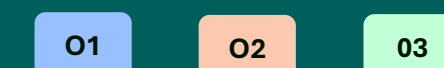Access to data is separated based on Role/User Need Profile 1 access only

**Data Pool**

`P1`  `P2`

Profile 1 & 2 access only

**Data Pool**

`P1`  `P3`

Profile 1 & 3 access only

**Data Pool**

`O1`  `O2`  `O3`

All profiles have access

**The Project Data Layer**
- *Data Segregation per project based on User Role Access*
- *Data Loss Prevention Rules*
- *Alerts on aggregation of classified data rules*
- *Storage & Backup*

SecureCloud+

# SecureCloud+

**Collaborate with confidence, decide with clarity, defend with resilience.**

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