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# Digital Sovereignty

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Security and privacy

EXAM fall 2025

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Due date: 11/12/2025

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# 1 Executive Summary

The purpose of this report is to examine, expand and define the organization's current dependency on non-EU technology, evaluate the key risks associated with this direction, analyse and propose EU alternatives. The goal is to identify and map a road to digital Sovereignty.

The current political climate is quite inhospitable and it has become apparent that world leaders make drastic, snap decisions that bring large implication to the technological landscape, where big tech can be leveraged as political thus inherently changing the risk of reliance on such services. Thus companies, with such reliances, risks getting caught in the crossfire.

Services where there is a heavy reliance, from companies such as *Microsoft*, which hosts Azure Active Directory (AD), used for identity management and *SharePoint* and *OneDrive*, which Lifeline Health Technologies (LHT) uses as a file sharing service, could suddenly become unavailable.

A loss of this service, which would be tantamount to loss of many years of technological IPs and achievements which could lead to unquantifiable damage to the company. Thus, in this inclement weather, a EU alternative for these services, is quintessential.

The main findings of this report is an overreliance on

- Microsoft Azure Services, where cloud hosting is indeterminate and jurisdictional exposure is somewhat vague. Thus EU laws may be hard to apply
- process and regulatory mismatches - Data is easily given up to 3rd party cloud services without regard for compliance (EU MDR)
- A thorough documentation is needed of other cloud solutions, specifically regarding SaaS tools
- main risks

Examples for some EU-alternatives :

- Univention - German based software for identity & access management. A self hosted AD, requiring a virtual machine. Can then handle all authentication, along with other features such as single sign-on (SSO) and multifactor authentication (MFA)
- Scaleway - A cloud hosting service, to host VM's for infrastructure purposes.

Thus Univention can be hosted by Scaleway, thus removing the dependency on a Microsoft service. In addition, the company's productivity suite, can be replaced by libre-office

## 1.1 overall conclusion

## 2 Introduction

This report addresses the current and ongoing challenges that is present within Lifeline Health Technologies ApS due to the merger between Mediscan ApS, an established manufacturer of ultrasound electronics equipment for the health industry. And HealthSync Mobile ApS, a younger, digital health oriented company. The two former companies originates from two different times, with differing missions and complex implementations.

The complexity created by this merger and associated difficulties, due to differing IT-landscapes, has prompted the executive team, to commission this report to highlight, identify and analyse the requirements and dependencies, related to digital Sovereignty with a focus on non-EU providers. The purpose of this report therefore becomes to identify risks within the newly formed, yet disjointed, IT environment which LHT has inherited, with its included assets, and how dependencies could cause problems regarding regulatory compliance, operation stability and long-term autonomy from non-EU actors.

The scope of this report covers the broader themes of digital Sovereignty, including identity and access management, data-storage, infrastructure and process mismatches, as well as the risk associated with a future migration along with a focus on jurisdictional factors that arises when handling sensitive data or other regulated information.

The overall structure of this report is, an overview of the current technology and service landscape of LHT, and a accompanying dependency analysis. These two tie into the risk assessment of the current status. This is followed by an evaluation of possible EU-alternatives to implemented services and comparison of the current implementation. Lastly a recommended migration Strategy is proposed.

### **3 Current Technology and Service Landscape**

As a result of the merger between Mediscan ApS and HealthSync Mobile ApS, the IT environment, inherited to LHT, is comprised of two very different digital landscapes. These differences go beyond mere technological platforms, such as tools chosen for various tasks, but also diverging philosophies. This leaves LHT to operate in a Hybrid environment, where some parts of the company use incompatible identity systems, inconsistent governance practices and service providers that might not be a perfect fit for EU regulations.

#### **3.1 Mediscan technology landscape**

Mediscan originates from traditional engineering practices, around product development, production, calibration and quality assurance. These include

- On-prem EU-local infrastructure, where the whole IT system is segmented into various sub networks, for engineering, manufacturing and servers.
- Local AD controllers, running on older operating systems, with weak overall governance
- Weak network security regarding hardware, older switches with no updates
- No MFA and relying on password update rotations

The infrastructure inherited from Mediscan, shows strong preference to local storage and authentication along with a typical product first approach, where cybersecurity is seen as a hindrance.

#### **3.2 HealthSync technology landscape**

#### **3.3 The hybrid environment post merger**

## 4 Dependency Analysis

**5 Risk Assessment**

**6 EU-Alternatives**

**7 Comparison of current and proposed solution**

**8 recommended migration strategy**

**9 conclusion**