



Lifen becomes the operating system for eHealth

Intelligent communications and secure messaging platform for the Healthcare ecosystem, improving patient outcomes faster at a lower cost

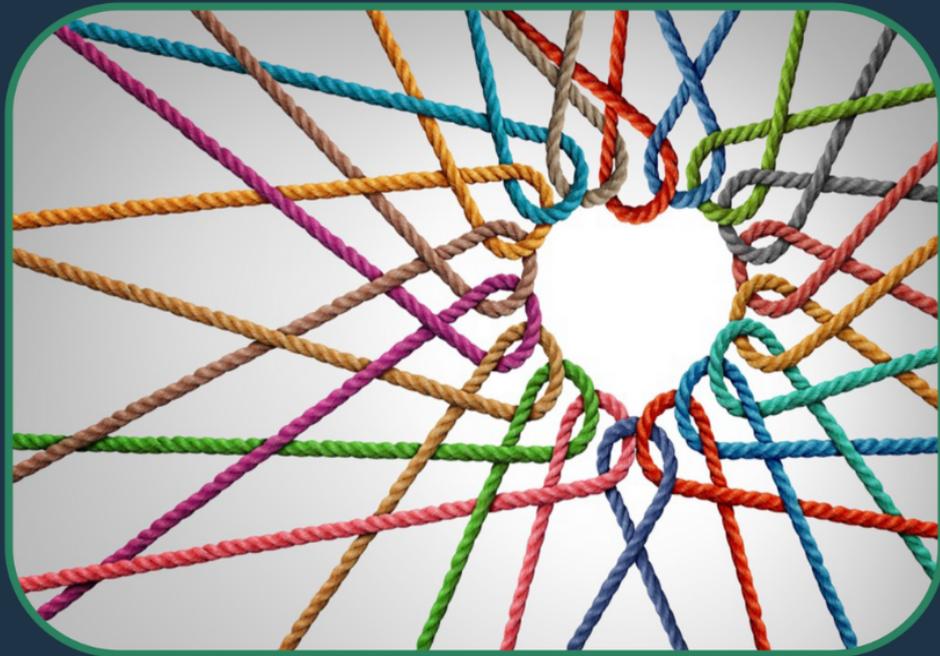


TABLE OF CONTENTS

	1
About this report	3
Highlights:	3
The business context for Lifem	4
Key drivers – Improve health outcomes at lower cost through timely, accurate, and secure communications	4
Capture insights from smart devices to monitor the health of individuals	4
Lifem - the story so far	5
Solution overview	6
Lifem positioned as The operating system for eHealth	6
Lifem integrates with almost any healthcare system solving the interoperability challenge and accelerating the promise of eHealth	7
Machine learning validates recipient credentials and extracts relevant data from any source document	7
Current position	7
Lifem proves its value in France and enters Germany with the UK next	7
Future direction	8
What to expect – Lifem and the NHS	8
CX-Create's viewpoint	8
Lifem pushing on an open door	8
Summary details	9
Appendix	9
Further reading	9
Six startups making a difference in health and wellbeing	9

ABOUT THIS REPORT

Based on a detailed interview with Egbert Schillings, Chief International Business Development Officer at Lifen, and secondary sources, this report introduces Lifen and its intelligent communications and secure messaging platform for healthcare professionals and patients.

The company, founded in 2016 in France, has had a major impact on the digitization of healthcare. It replaces antiquated sending, receiving, and storing of patient information with an intelligent platform enabling healthcare professionals to share and collaborate at a much lower cost. It also enables healthcare providers to innovate faster in the pursuit of better outcomes for patients.

CX-Create is an independent IT industry analyst and advisory firm focused on advances in customer engagement technologies and startup innovators like Lifen.

HIGHLIGHTS:

- Key drivers – Improve health outcomes at lower cost through timely, accurate, and secure communications
- Capture insights from smart devices to monitor the health of individuals
- Lifen integrates with almost any healthcare system solving the interoperability challenge and accelerating the promise of eHealth
- Machine learning validates recipient credentials and extracts relevant data from any source document
- Lifen positions its platform as The operating system for eHealth

THE BUSINESS CONTEXT FOR LIFEN

KEY DRIVERS – IMPROVE HEALTH OUTCOMES AT LOWER COST THROUGH TIMELY, ACCURATE, AND SECURE COMMUNICATIONS

As in other knowledge-intensive industries, the health sector has experienced an explosion of data from multiple sources and communications channels, such as voice, video, and more recently sensor data from remote medical devices and IoMT.

While many large enterprises struggle to manage, share, and communicate data to employees and customers who need it the healthcare sector is arguably more complex. Except in rare cases, such as vertically integrated healthcare provider, Kaiser Permanente, healthcare is delivered via an ecosystem involving patients, local medical practices, pharmacies, public or private hospitals, ambulance services, clinics, laboratories, and insurers among others. Each ecosystem member has its own processes, procedures, and management systems, creating a potential communications Tower of Babel making it difficult and slow to share, exchange, and protect vital patient information. While patients can be forgiven for assuming everyone who needs it in a hospital has access to their information and patient records, these large medical institutions share the same afflictions that beset large commercial organizations – silos and data fragmentation – the two most common causes of inefficiency encountered by CX-Create, resulting in low productivity, delay and customer dissatisfaction and frustration. The impact of such inefficiency results in unnecessary costs, manual workarounds, unsustainable waste, and what should be the primary concern of health professionals, poor patient outcomes.

CAPTURE INSIGHTS FROM SMART DEVICES TO MONITOR THE HEALTH OF INDIVIDUALS

In recent years more of us are using devices to monitor aspects of our own health. Devices such as smart watches, electronic scales, home-based blood pressure, weight, insulin, and sleep monitors. Analysis of trends provides physicians with additional insights and new opportunities to prevent illness and promote healthier lifestyles.

While these new devices have all added to the tsunami of data healthcare professionals must contend with, being able to update and unify patient healthcare records drives the need for a platform strategy and solution, with the ability to integrate with an increasing number of systems and devices and create a unified view of an individual's health. It also provides more opportunities for the unscrupulous to hack or steal data from a growing array of data sources. Any platform must, therefore, stand up to the highest levels of compliance and data security scrutiny.

It is these communications challenges that Lifen, founded in 2016, is helping the healthcare ecosystem to solve through its innovative communications and messaging platform.

LIFEN - THE STORY SO FAR

Lifen was founded in 2016 in France by CEO Franck Le Ouay, a former Microsoft software engineer with expertise in Big Data, Data Science, and Machine Learning (ML) in the US. Struck by the highly fallible reliance on traditional modes of communicating and sharing patient information, often in the form of paper documents printed and sent to each member of the healthcare ecosystem – such as doctors, clinicians, payers, patients, etc., Le Ouay returned to his homeland, France in 2015.

Lifen Documents was the first attempt to overcome the data sharing challenge. Documents in the form of electronic records were dispatched electronically. They could be printed locally, allowing healthcare professionals in local surgeries or hospitals to get the latest patient information and discuss potential treatments. While not entirely paperless, by the end of 2018, over forty hospitals in France had adopted the solution. Early adopters typically reduced reliance on paper-based communications by over 90%. This sparked interest from the investment community, and the same year investors provided 7.5M€ in Series A funding. Le Ouay had also strengthened his leadership team with the arrival of two new colleagues, Egbert Schillings (now Chief International Business Development Officer) and Dali Kilani (current Chief Technology Officer). Both have highly relevant credentials. Schillings was a former healthcare strategy consultant at McKinsey & Co and MD at Kaiser Permanente. Kilani is steeped in architecting and developing high-performance hardware systems and enterprise-scale applications with experience gained at Nvidia, Zynga, and the Boston Consulting Group. By the end of 2018, Lifen employed thirty-five people.

In 2019, Lifen raised a 20M€ Series B investment, and the firm quickly expanded to ninety people. In a partnership with a multinational healthcare provider, Ramsay Santé expanded the use of the Lifen solution to 8,000 healthcare practitioners. In 2020 the French government awarded the interoperability prize to Lifen in recognition of its ability to integrate with multiple health management and patient record systems. The same year secure messaging was extended to patients, and within a few months, over half-a-million patients signed up for the service.

By 2021, the Lifen technology had evolved into a communication, secure messaging, and integration platform, extending the platform's value via partnerships with a host of application developers providing complementary specialist services. A great example is the healthcare device and app developer, Withings. It provides a variety of monitoring devices, including blood pressure, heart rate, sleep, temperature, and weight.

In November 2021, Lifen secured an additional 50M€ funding in a Series C round led by Creadev and Lauxera Capital Partners, with participation from existing investors Partech and Serena. Lifen plans to use the investment to expand in Europe.

SOLUTION OVERVIEW

LIFEN POSITIONED AS THE OPERATING SYSTEM FOR EHEALTH

The Lifen Intelligent Communications messaging and integration platform securely connects vital patient information throughout the healthcare ecosystem and support systems. With the ability to extend the platform via APIs and a wealth of third-party applications, Lifen has ambitions beyond its core communications and secure messaging.

Figure 1 outlines the complete Lifen value proposition.

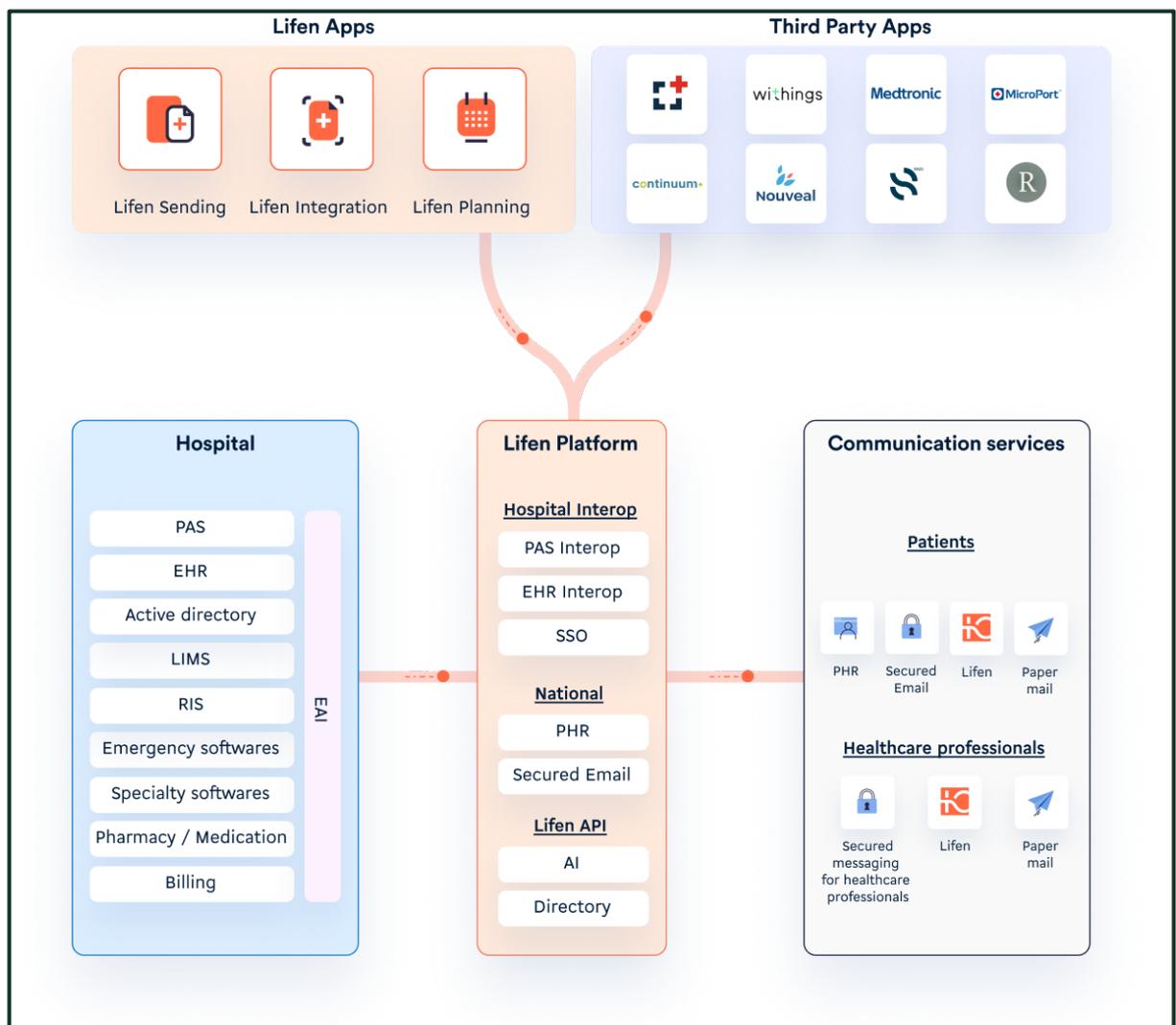


Figure 1: Lifen Intelligent Communications and Secure Messaging platform

LIFEN INTEGRATES WITH ALMOST ANY HEALTHCARE SYSTEM SOLVING THE INTEROPERABILITY CHALLENGE AND ACCELERATING THE PROMISE OF EHEALTH

The Lifen Platform has over 1000 API connectors to integrate with almost any patient admin system (PAS) hospitals use, laboratory management systems (LMS), electronic health records (HER), and APIs to connect pharmacies and government or insurer's billing systems.

Three Lifen applications for sending, integration, and support for hospital planning systems ensure that medical documentation is sent and received by the physician or consultant on duty. The platform can also be extended to include third-party specialist applications that may be required as part of the end-to-end workflow, including data from a patient's smart monitoring devices at home.

MACHINE LEARNING VALIDATES RECIPIENT CREDENTIALS AND EXTRACTS RELEVANT DATA FROM ANY SOURCE DOCUMENT.

Lifen uses trained machine learning (ML) algorithms to validate recipient credentials and read and harvest essential information required for a particular medical purpose. For example, radiological information following a test on a patient for cancer will provide what the oncologist needs without having to wade through irrelevant accumulated documentation to determine the best course of treatment. The patient's electronic health record is automatically updated. The impact is significantly faster cycle times from initial diagnosis to provision of the correct course of treatment, allowing physicians to focus on what they do best, unencumbered by unnecessary admin.

Patient data security is paramount, and the Lifen Platform is GDPR compliant with data secured on Amazon Web Services (AWS) cloud infrastructure in European data centers and is ISO 27001 certified, the international security standard for information systems. It also complies with the National Secure Messaging Protocol by MS Santé in France. Lifen uses TLS 1.2 or higher protocol for encryption in transit. At rest, Electronic Block Storage (EBS) volumes are encrypted with a data key using the industry-standard AES-256 algorithm on AWS.

For additional security, Lifen data scientists only ever see pseudonymized data and have no access to personal health information.

CURRENT POSITION

LIFEN PROVES ITS VALUE IN FRANCE AND ENTERS GERMANY WITH THE UK NEXT

Lifen has already enjoyed considerable success in France, as evidenced by the following statistics provided by Lifen:

- Lifen is used by over 600 clinics and hospitals, connecting more than 100k healthcare professionals and administrators
- 5 million patients have received medical information via Lifen
- 10,000+ EPR matches every day
- Over 70 million documents have been sent via Lifen



- Lifem ML has a 98% success rate in predicting the patient identifier and analyzing and converting 100,000+ documents into structured data daily.
- Digitization of communications between healthcare professionals using Lifem averages 91%

Lifem's success in France augurs well for European expansion, with discussions at an advanced stage in the UK.

FUTURE DIRECTION

WHAT TO EXPECT – LIFEM AND THE NHS.

The next major stepping-stone for Lifem will be its entry into the UK. The company exhibited at Confed Expo in Liverpool on the 15th and 16th of June. The conference and exhibition were delivered in partnership with NHS Confederation, NHS England, and NHS Improvement. In 2020, according to Silicon Canals, an English language European technology media source, the UK health tech market received a 2.7B€ investment, the third largest in any country. The NHS is the largest employer in Europe and is busily trying to transform itself digitally.

CX-CREATE'S VIEWPOINT

LIFEM PUSHING ON AN OPEN DOOR

The healthcare sector is under intense operational pressure to transform and keep up with the post-Covid-19 backlog of patients needing treatment for chronic and age-related diseases. The NHS has spent £192 billion in 2020/21 and is under immense pressure to modernize and ensure that taxpayers' money is invested wisely. Speaking at Confed Expo, the Health and Social Care Secretary, Sajid Javid, highlighted the need for greater collaboration across the health ecosystems. In 2023 he is expected to set out a digital health and care plan, among other initiatives, and authorize up to £5.9 billion in capital investment. CX-Create's view is that the promise of wellness, illness prevention, and not just care after patients become ill requires a unifying technology foundation, a platform to connect patients to the entire healthcare ecosystem. Something that innovators can readily connect to and that emancipates healthcare professionals from mundane administrative tasks so that they can focus on best-in-class healthcare and prevention.

The Health and Social Care Secretary will likely welcome Lifem's contribution.

SUMMARY DETAILS

Table 1: Fact sheet

Solution name	Lifen Platform	Solution category	Interoperability engine
Key industries	Healthcare	Geographies	France, Germany today, UK, and EU later
Deployment model	SaaS	Licensing basis	Subscription
Size of organizations served	Any size	Go-to-market model	Direct and partnerships with healthcare providers/insurers
Number of employees	182	Key partnerships	Elsan, Ramsay, Gustave Roussy, Institut Curie, APHP, Medtronic
URL	https://www.lifen.health/	HQ	Paris, France

APPENDIX

FURTHER READING

[SIX STARTUPS MAKING A DIFFERENCE IN HEALTH AND WELLBEING](#)