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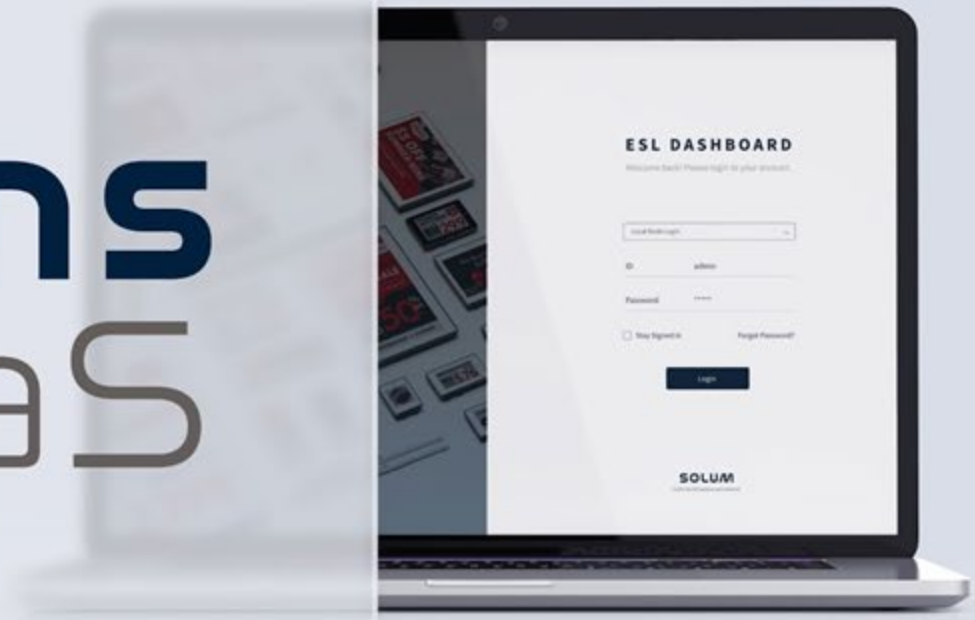
Aims
SaaS



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Foreword

SaaS (Software as a Service) is a service model in which applications and software are hosted by a third-party provider and made available to you via the Cloud. SaaS has been growing in popularity due to the ease in which software applications can be deployed and accessed, without businesses having to spend their own time and resources on installing, configuring, and updating the software themselves. Simply put, SaaS gives you access to the software you need on demand for quicker.

Revolutionizing the ESL industry since its inception, SOLUM now proudly offers Aims SaaS. Using its custom-developed data management tools and deep service-oriented architecture expertise, Aims SaaS helps our clients find new efficiencies in ESL management and data reporting.

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Rely on SOLUM to create innovative, custom solutions to meet your complex needs, or work with our experts to define how you can leverage Aims SaaS as a go-to ESL management software for your organization.

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What is Aims SaaS

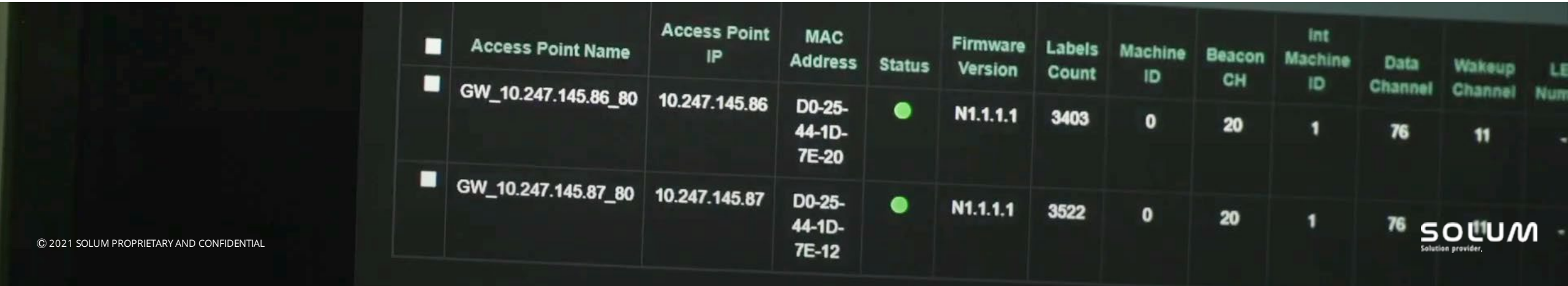
With Aims SaaS, you can stay focused on your business while our experts ensure a frictionless operation.

Hosted on SOLUM's Cloud Platform using Microsoft Azure service, Aims SaaS allows businesses to deploy Aims more quickly at a lower cost. Just put the hardware in place, subscribe to Aims SaaS, and you're good to go.

Aims SaaS also ensures stability and optimum performance all the time by scaling the server automatically, and is bolstered with all the security controls to protect your business data from any potential threats.

Key Numbers:

- 99.90% Uptime
- Up to 78% in Cost Savings
- 1 million image generation with in 5 minutes
- 24/7 SLA Availability
- Deployed across +3,000 stores



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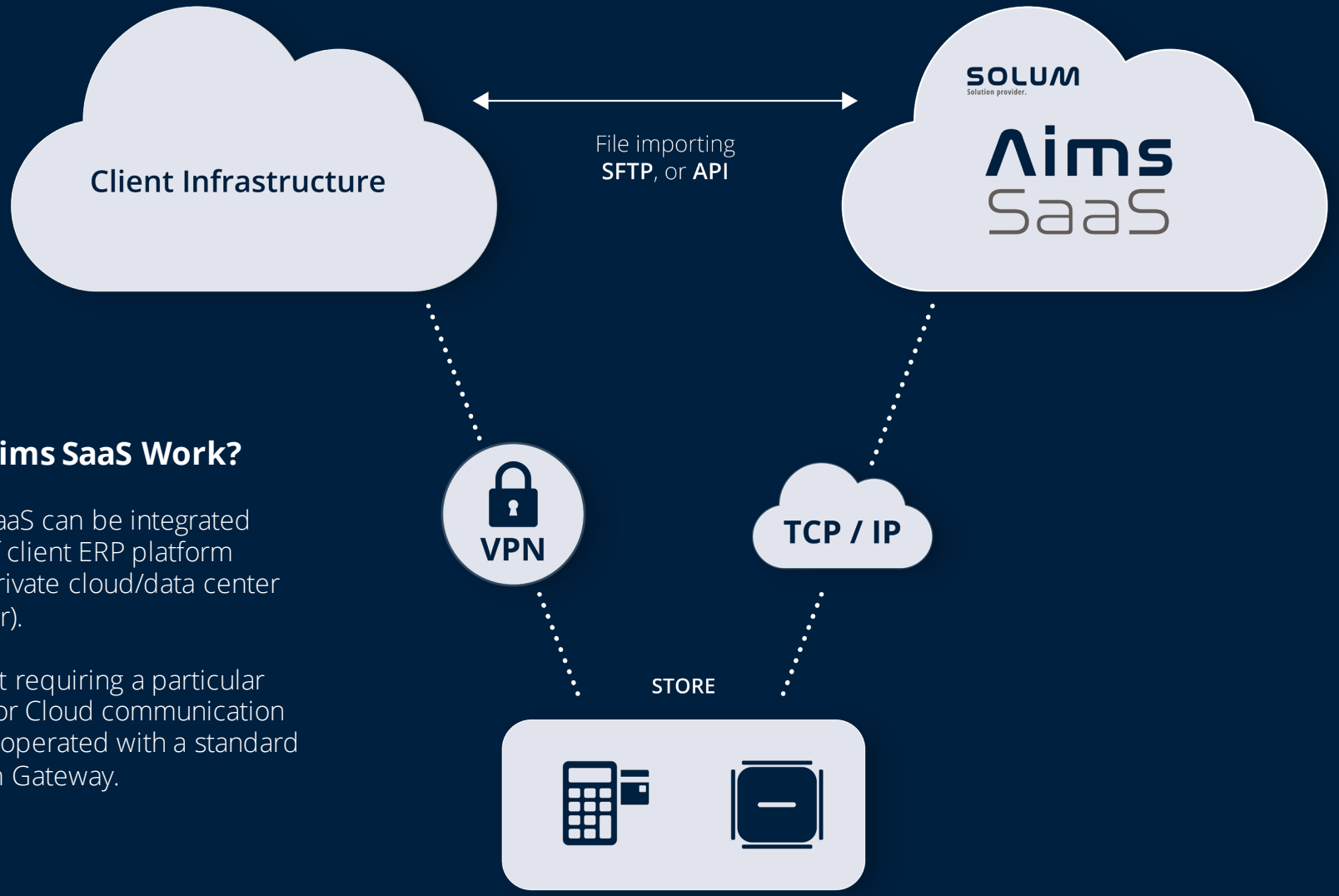
How Does Aims SaaS Work?

SOLUM AIMS SaaS can be integrated with any kind of client ERP platform (public cloud, private cloud/data center or a store server).

Aims SaaS is not requiring a particular infrastructure for Cloud communication and just simply operated with a standard SOLUM Newton Gateway.



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Aims SaaS Architecture

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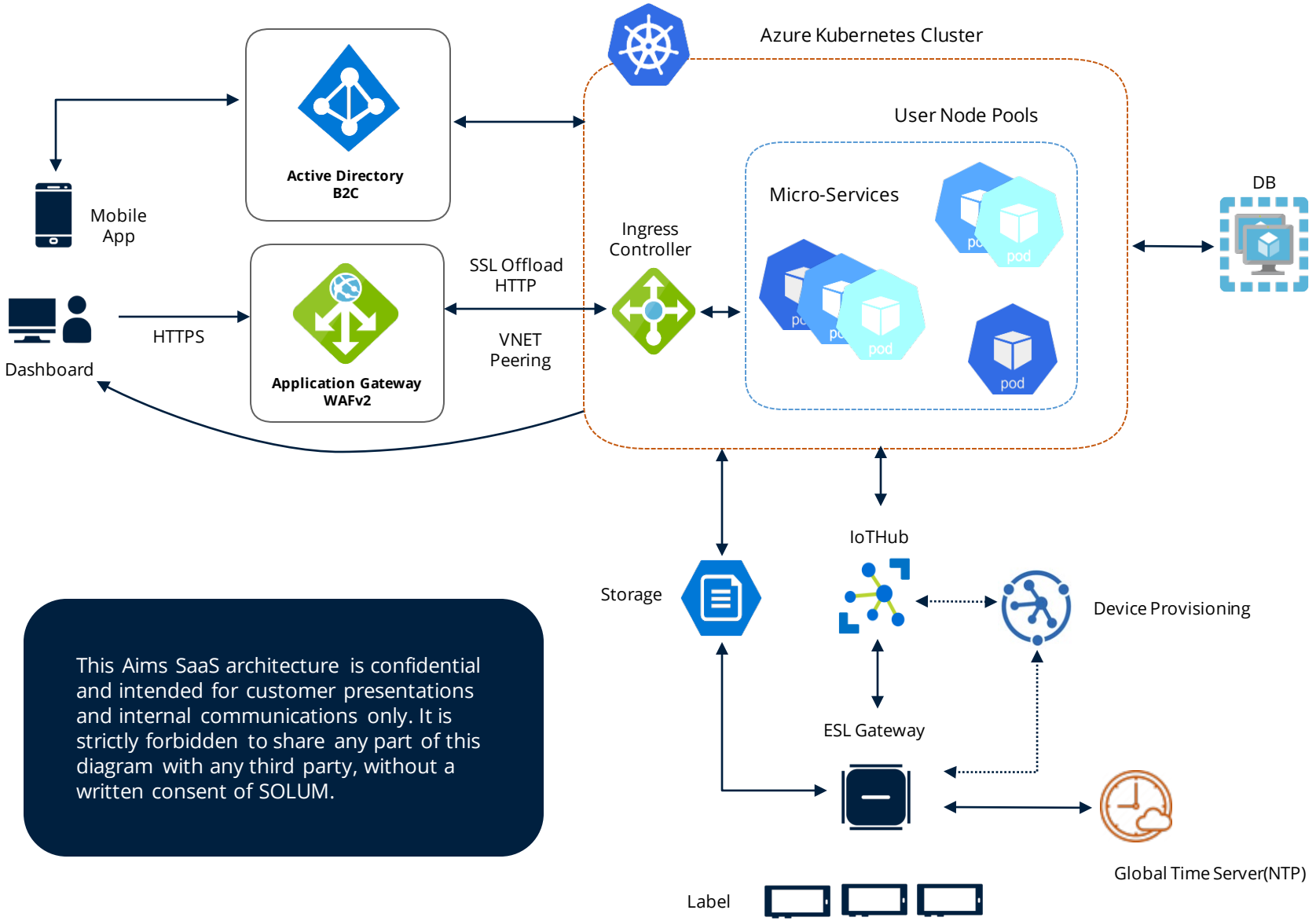

This Aims SaaS architecture is confidential and intended for customer presentations and internal communications only. It is strictly forbidden to share any part of this diagram with any third party, without a written consent of SOLUM.

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Service	On-Premise Server	Aims SaaS Server
Server Hosting (Scaling, Monitoring, and Maintenance)	Client	SOLUM
Software Installation	Client	SOLUM
Server Hardware Cost	Client	Not Required
Server Hardware Maintenance	Client	Not Required
Data Security and Backup	Client	SOLUM
ESL System Management and Monitoring • Software installation and upgrades • Store registration and deletion • Gateway registration, deletion, configuration and upgrades • Status monitoring of Software, Gateway and Labels	Client	SOLUM
Hotline service availability (Level 1 support - store-based operation support)	Not Available	Available
Server Level 2 & 3 Support (Support for IT Department)	SOLUM	SOLUM
24/7 Service Level availability	Not Available	Available

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Automatic Scalability

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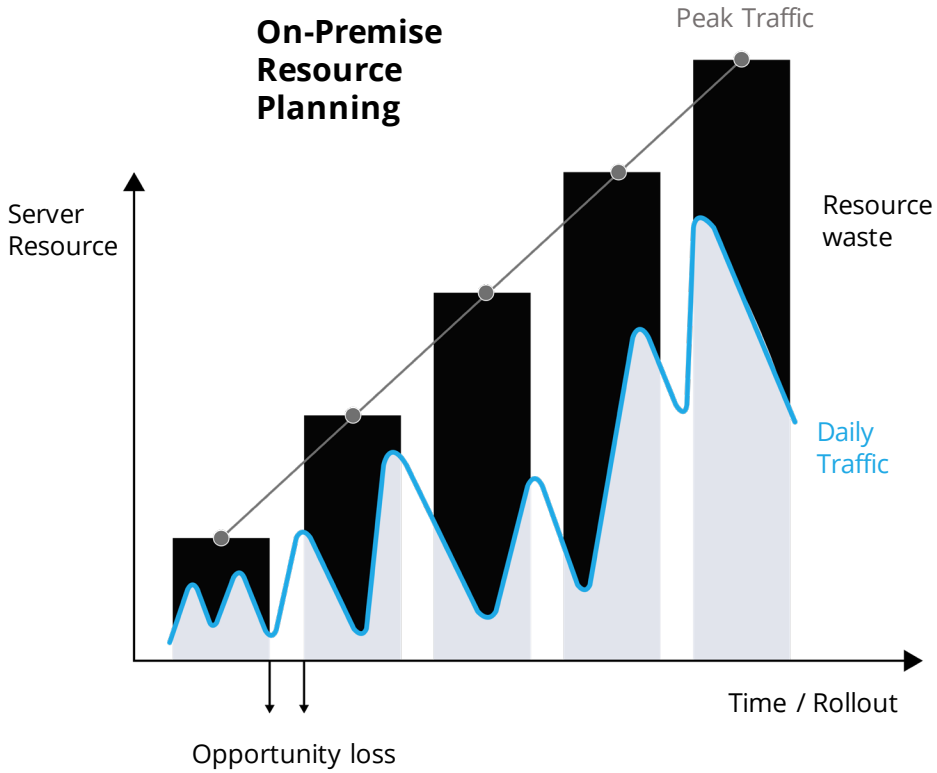
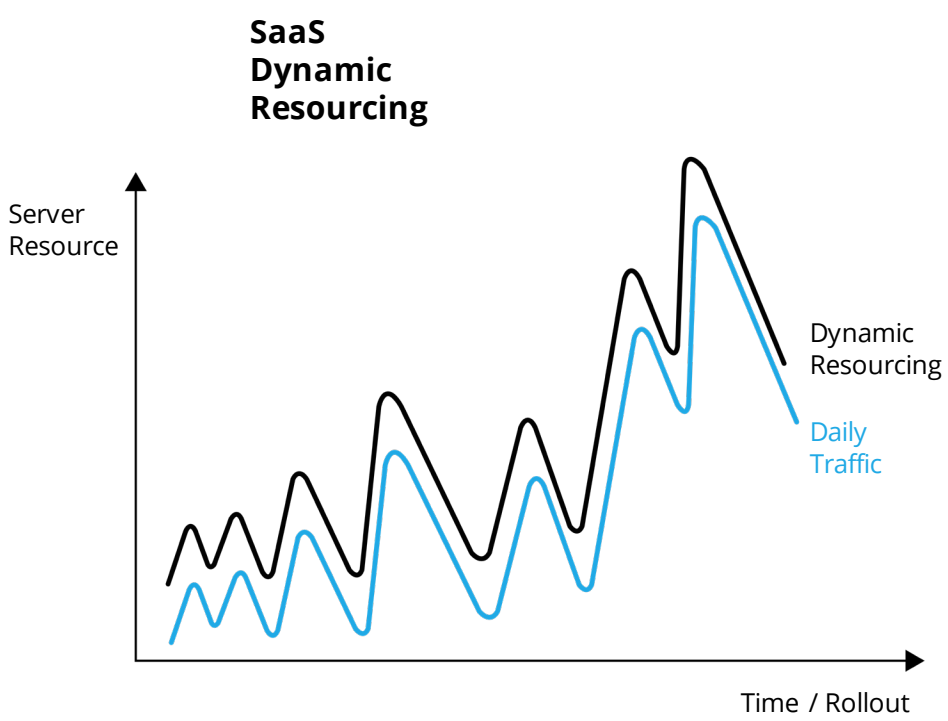


In an on-premise server architecture, customers buy the server hardware that reaches maximum capacity when there's a peak traffic. However, in reality, the daily traffic is far lower than its peak traffic much more often. Therefore, there will be many underutilized server capacity which translates to resource waste. Besides, there is an opportunity loss of ESL benefit from the delay of the ESL roll-out deployment while it's scaling up the server hardware in a on-premise infrastructure.



With Aims SaaS, there is no waste or loss of resource or opportunity as we scale up and down our server resources automatically depending on the daily traffic. As a result, you will just have to pay the minimum amount of subscription fee as your resource usage decreases.

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Cost Savings

With Aims SaaS, the cost of software can be spread over time and, as it is hosted in the cloud, the upfront implementation costs (e.g. CAPEX) are significantly lower than with more traditional methods.

On-premise software and SaaS can have significantly different long-term costs. By examining how these costs are determined, you can identify major savings

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On-Premise vs Aims SaaS Cost Chart

SOLUM provides Aims SaaS using a robust, open, and flexible cloud platform. With this deployment model, you are not required to maintain your own data center nor store server to manage your ESLs – all you need to do is to install the gateway, put the ESLs in place, and get a hosting service from SOLUM. A detailed cost breakdown for a business chain can be seen on the next page.

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Cost for 5 Years for 100 Stores with 1 Million SOLUM ESLs

Aims Site (On-Premise) costing. vs computed at €0.05/label Aims SaaS subscription fee

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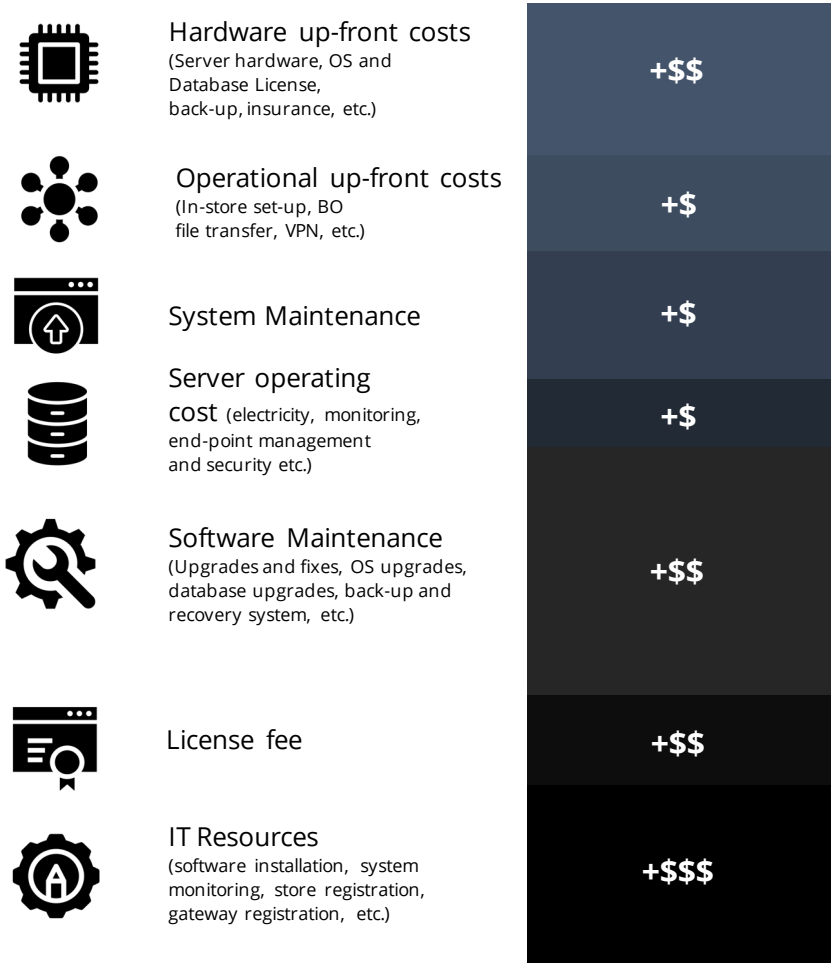
On-Premise

TOTAL **x3 ~ x4 cost Comp. to SaaS**



Aims SaaS

1/3~1/4 cost Comp. w On Premise

(Subscription Fee for Five years*)

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Performance

The enhanced computing technology of Aims SaaS infrastructure enables it to operate at maximum capacity i.e. with less delay, and greater precision, for the customer. This is because its multi-tenant architecture integrates the servers and automates data exchange processes needed for the technology to run, creating streamlined processing and higher performance speed.

While you can increase the computational performance of the technology in an on-premise environment, it is much more expensive to do this, and because you do not have the scalability and added support of cloud infrastructure, all the responsibility of managing the environment and adapting to changes in the market rests on your shoulders.

Even when there is heavy traffic on the customer side, all servers work together to process the load, thus resulting in a shorter processing time than single-tenant architecture while not wasting any resources as well. Even though there is heavy traffic in all customers, there is no concern as the Dynamic Resourcing feature of Aims SaaS scales automatically to handle massive loads in real-time.

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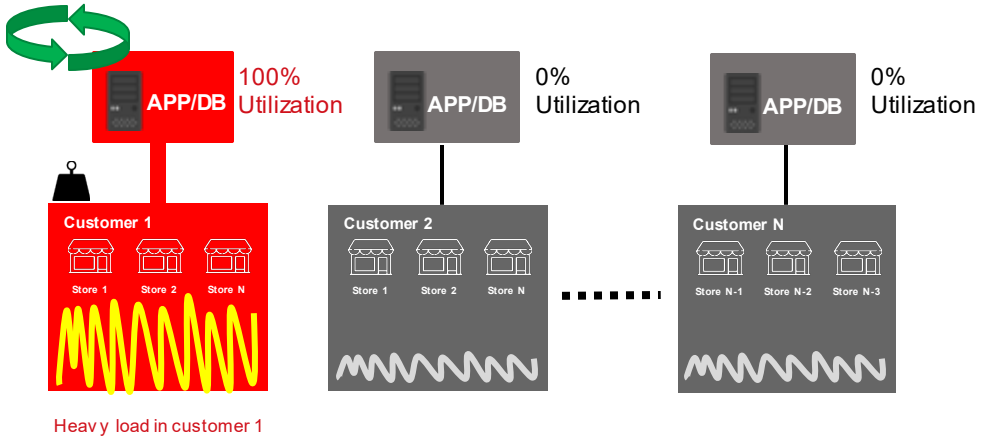
Single Tenant

Single-tenant architecture in an on-premise server faces the risk of reduced performance when there is heavy traffic. The primary reason is that its Application / DB server only has a fixed capacity to process all the customer traffic at the same time.

In an assumption that all the customer's traffic happens simultaneously, while one server utilizes its capacity fully, there are often other servers that are just sitting and not utilized at all.

$$\text{Processing time} = \frac{\text{A load in a customer}}{\text{Performance of APP/DB X 1}}$$

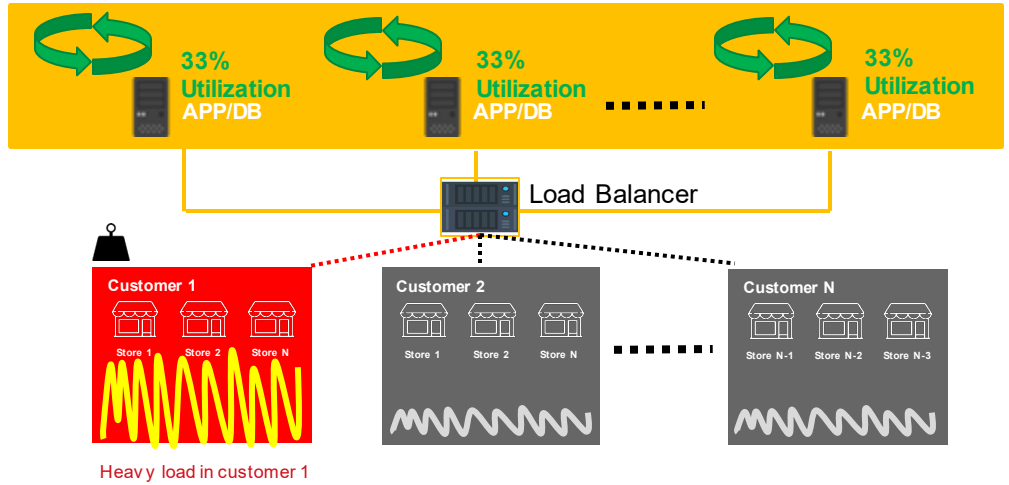


Aims SaaS Multi-tenant Architecture

On the other hand, Aims SaaS multi-tenant architecture is the perfect way to guarantee a high performance standard at all times. Even when there is heavy traffic on the customer side, all servers work together to process the load, thus resulting in a shorter processing time than single-tenant architecture while not wasting any resources as well. Even though there is heavy traffic in all customers, there is no concern as the Dynamic Resourcing feature of Aims SaaS scales automatically to handle massive loads in real-time.

The multi-tenant architecture of Aims SaaS guarantees high performance standard. This helps make Newton the fastest ESL system in the world!

$$\text{Processing time} = \frac{\text{A load in a customer}}{\text{Performance of APP/DB X N}}$$



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Quick Implementation

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With SaaS based software, it is very much possible to deliver value to the business - way sooner than they had previously imagined. Through effective customer planning, user training, and coordination with all the stakeholders, a faster SaaS implementation can be achieved in just 10 minutes versus 7-12 days of implementing an on-premise software.

The subscription model of Aims SaaS means you just have to pay the subscription fee - no need to install and configure individual machines and 3rd party cloud environments. The only infrastructure needed are our own Newton Gateway and the labels. We also coordinate closely with our clients to understand their specific needs and therefore facilitate a smooth, shorter implementation of the system.

Faster time to market means improved operations and additional competitive advantage for your business.

On-premise implementation time:

Aims SaaS implementation time:

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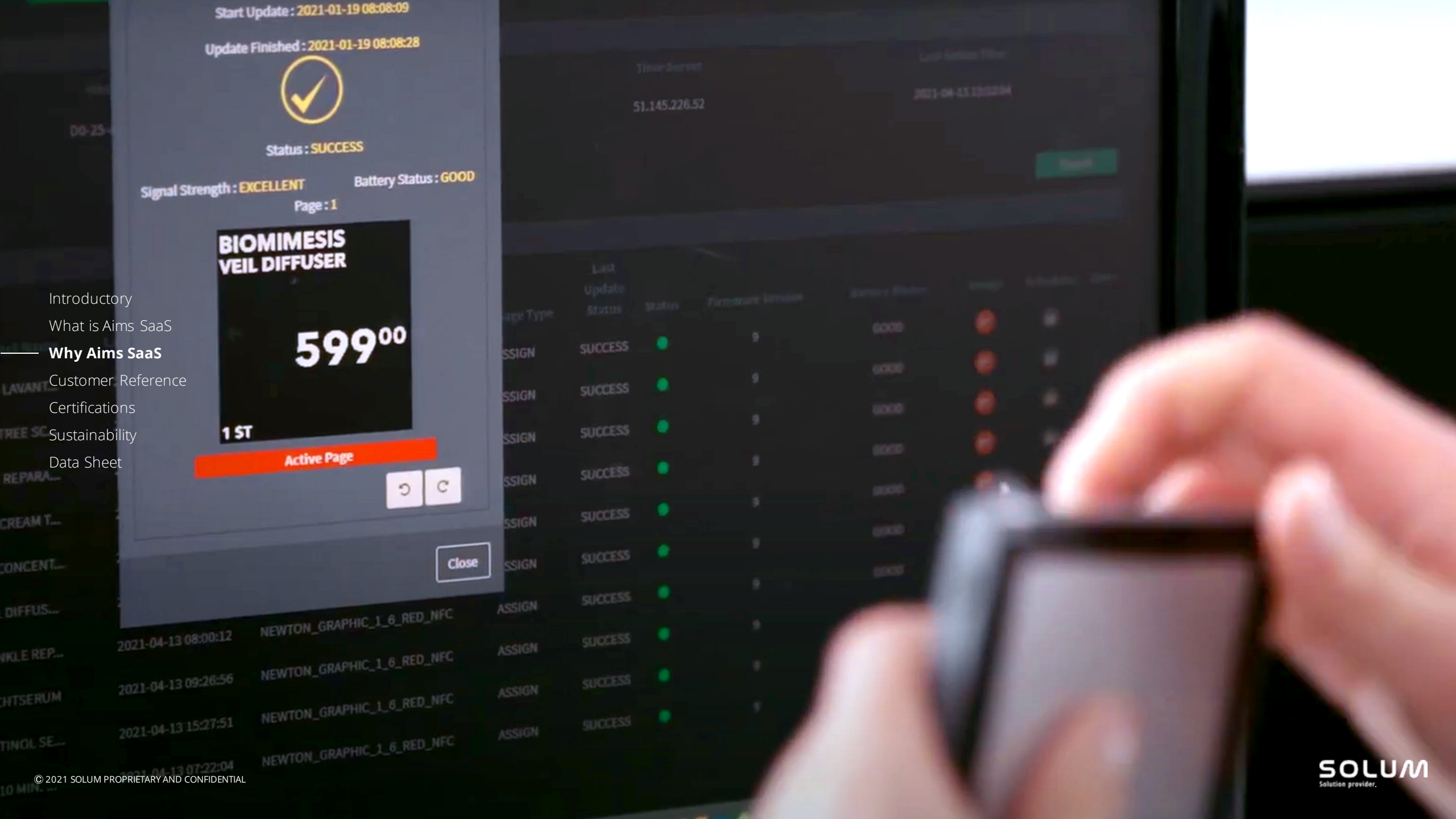

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Reliability

Highly available systems are reliable in the sense that they continue operating even when critical components fail. They are also resilient, meaning that they are able to simply handle failure without service disruption or data loss, and seamlessly recover from such failure.

Powered by Microsoft Azure, the Aims SaaS provides businesses with high availability and load balancing to handle the most demanding enterprise workloads, as well as support global expansion.

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Powered by Microsoft Azure, the Aims SaaS provides businesses with high availability and load balancing to handle the most demanding enterprise workloads, as well as support global expansion.

Through auto-scaling criteria and resource monitoring features, Aims SaaS minimizes the redundancy in the production environment and ensures high performance even in the peak hours.

These features ensure that the system is always stable and runs at optimum efficiency, reducing or preventing losses due to Service Level Agreement (SLA) violation penalties.

Key Figures

- 99.90% Uptime

- 4 hours recovery time

- 24/7 SLA Availability

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Mobility and Collaboration

The right software deployment model can empower your employees to work more efficiently, by providing them with time-saving features. This extends to how simple it is to use the software on mobile devices.

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If your staff can easily find the information they need on their laptop, tablet or phone, it can also increase their efficiency. Even more, if they can execute tasks through their mobile devices while at the production floor, their productivity can reach a whole new level.

Many on-premise solutions require a VPN or custom-built mobile app for the software to work on mobile devices. By contrast, Aims SaaS works on any web-enabled device. Also consider how better scalability and deployment time might affect productivity.

According to IDC's survey, organizations that host their application workloads in the cloud found that it contributed to a 23% productivity improvement for their employees.

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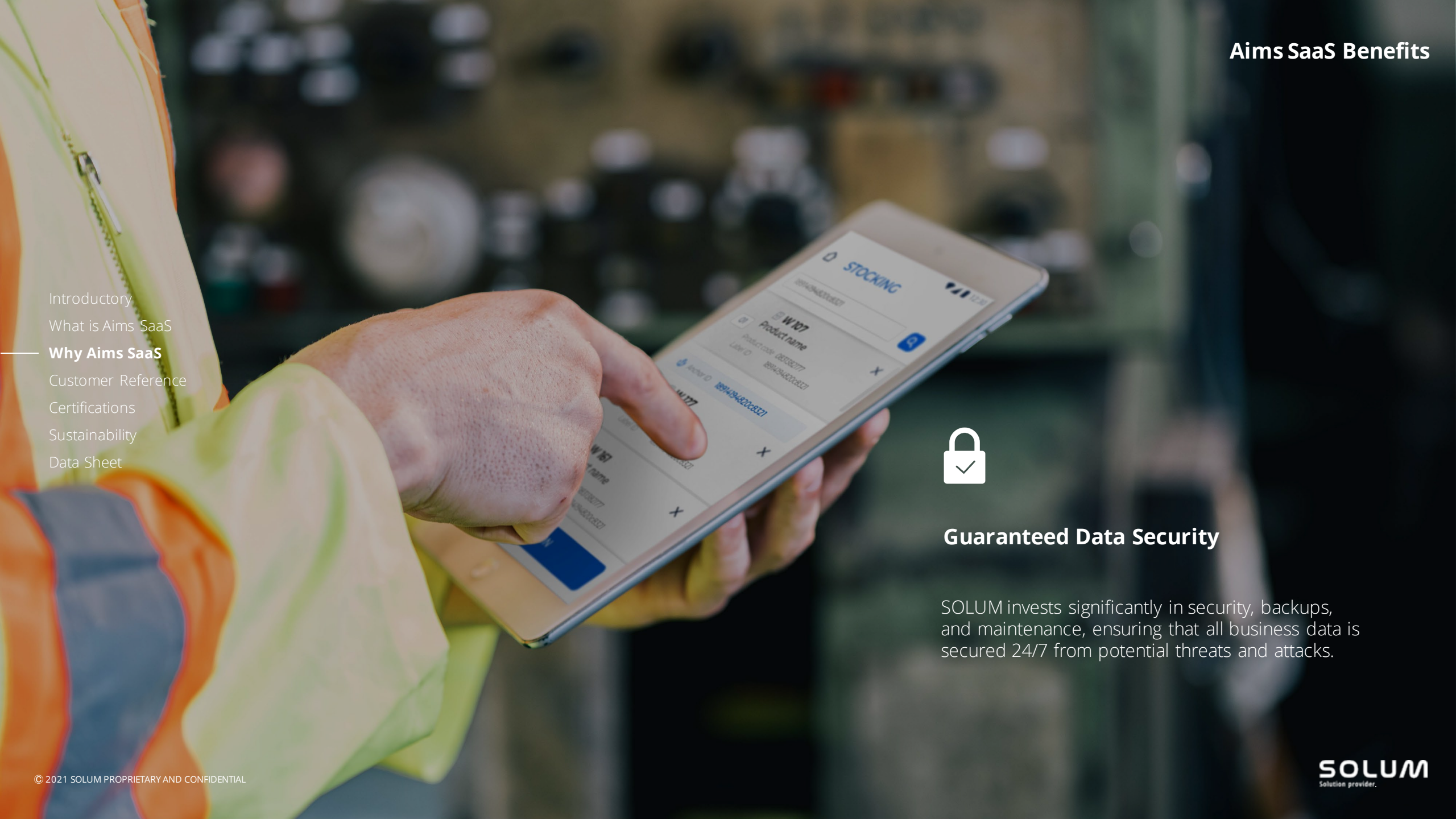

Guaranteed Data Security

SOLUM invests significantly in security, backups, and maintenance, ensuring that all business data is secured 24/7 from potential threats and attacks.

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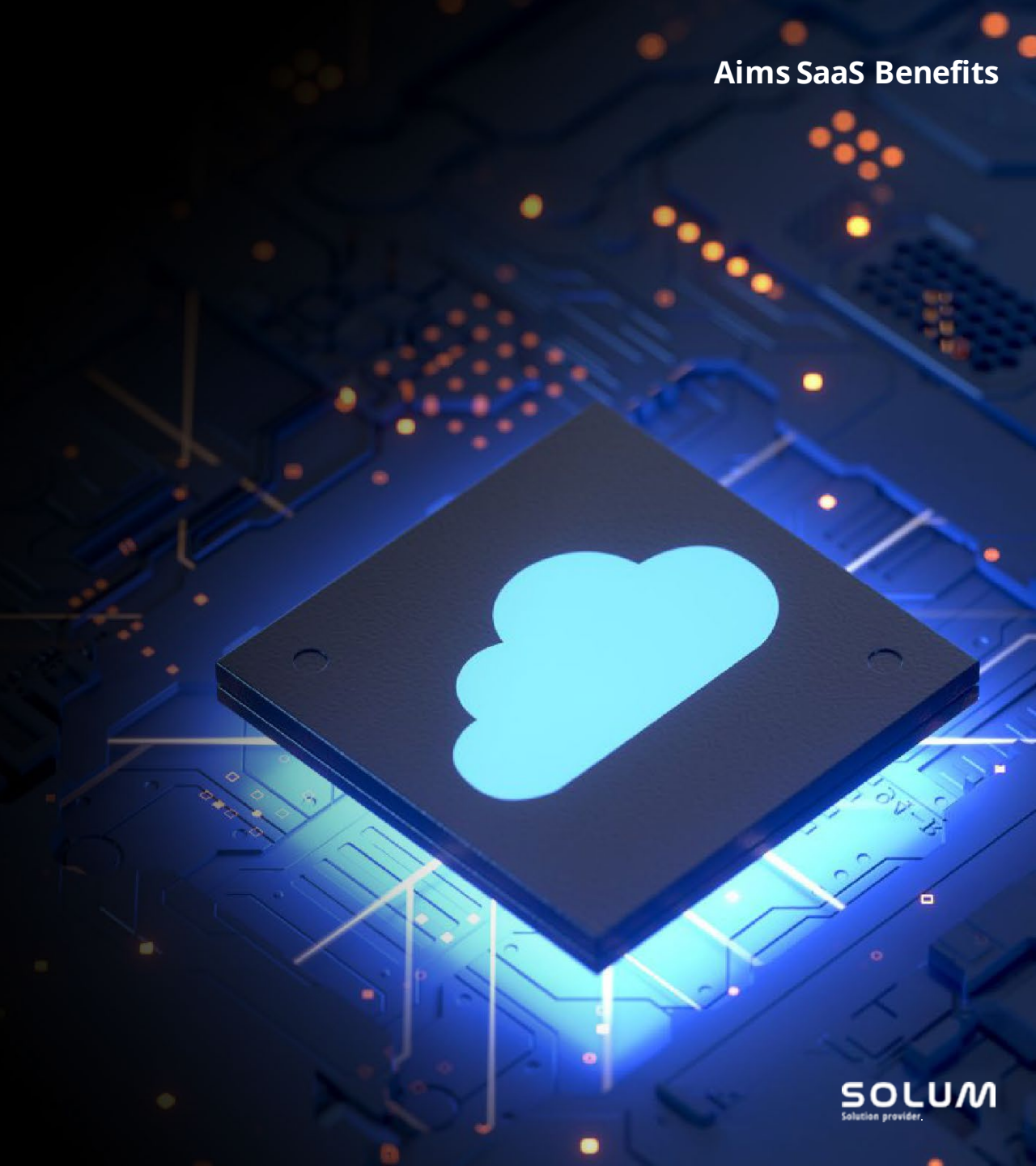
1. **Identity Management** - The users are authenticated and given access based on Microsoft Azure Active Directory which ensures secure access to data while also providing a simple and seamless way to deliver effortless experience to users.

2. **API Authentication and Authorization** - Different permission levels can be provided for different users. Continuously authenticate API calls registered users only, and track users who are making the requests. API usage tracking also allows to block or throttle any requester who exceeds the rate limits.

3. **Application Delivery Control** - Secure Sockets Layer termination and end-to-end SSL/TLS encryption protocols are implemented automatically to ensure secure software delivery, while the WAF_v2 by Azure provides centralized protection by centrally patching a known vulnerability in real-time.

4. **Privacy** - All information is stored on Azure storage and Azure SQL Database. Both encrypt data at rest by default using Azure Disk Encryption

5. **Logging and Auditing** - All logging data is stored on the internal location. Retention period is configurable to ensure compliance with data protection laws.



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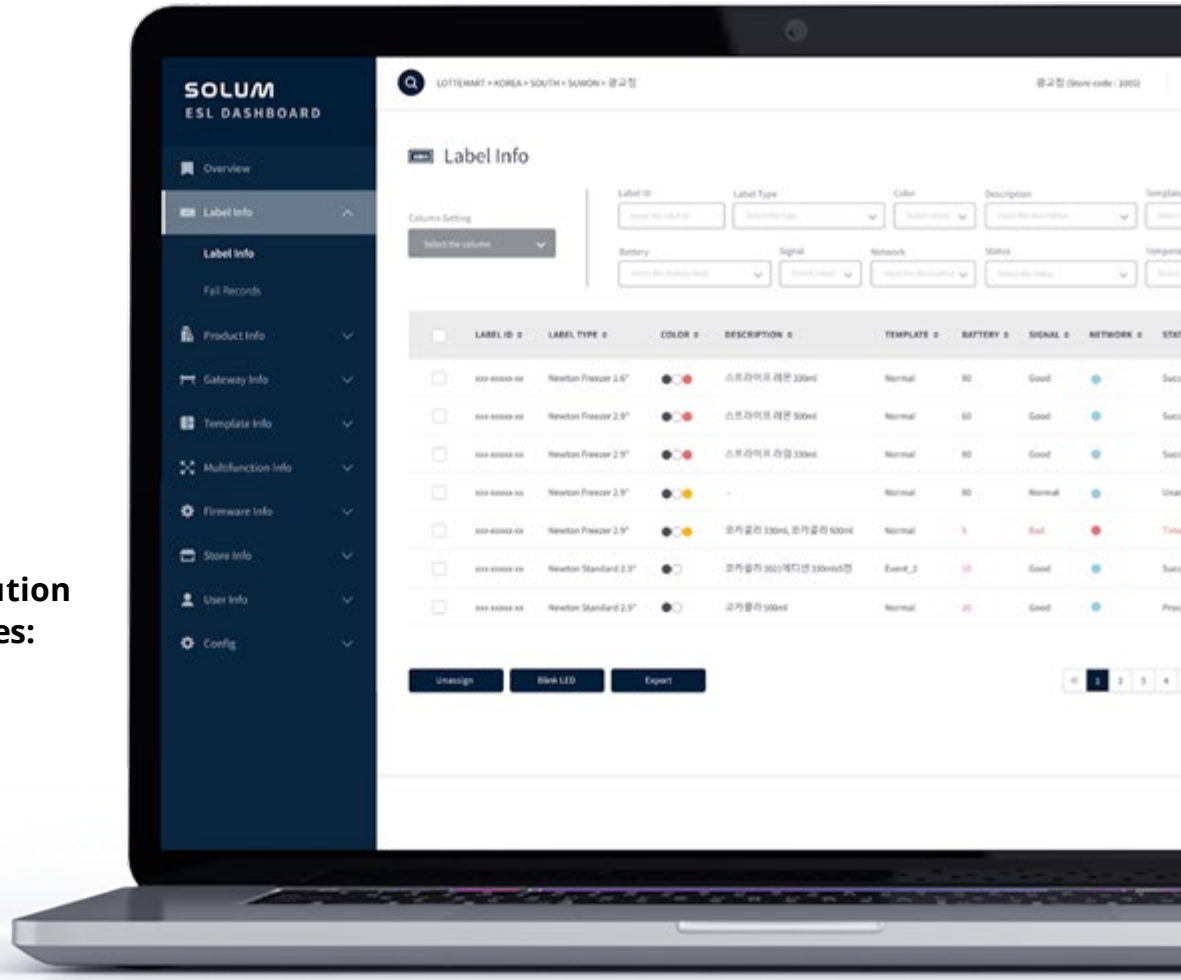
Customized Functionalities

Aims Dashboard and Aims Manager App can be fully customized to each client's specific requirements. Purpose-built APIs can be integrated to extend the functionality of Aims.

Currently, SOLUM is working on with multiple solution partners to activate APIs for the following use cases:

- Pick-by-Light and Stock-by-Light
- Location-Based Services and
- Tap and Go
- Dynamic Pricing
- Waste management



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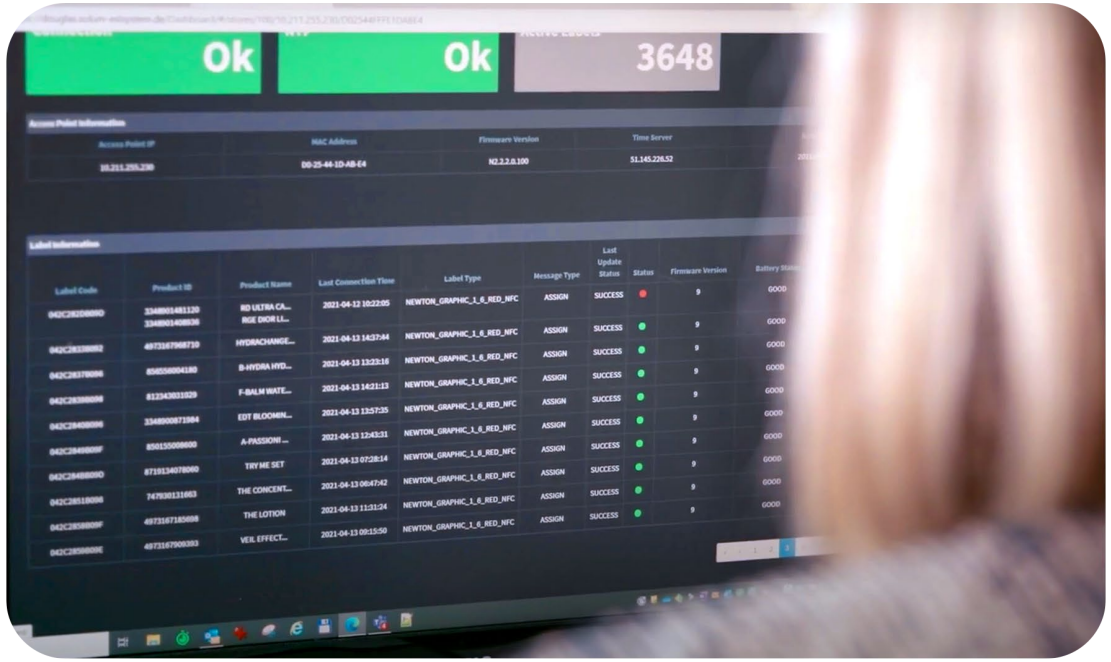
Powerful Data and Analytics

With Aims SaaS software, data and analytics are more easily captured and available through quick reporting tools because the information is found in a centralized location.

Through a central dashboard, you can obtain the following data and more:

- The number and online/offline status of Gateways
- The number and online/offline status of Newton Labels
- Information/configuration of Gateways
- Detailed status of Gateways
- The number and list of labels associated with the Gateway
- Abnormal labels; such as those with low battery and bad RF signal strength
- Update status of labels
- Detail information of labels and image preview



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Aims SaaS Benefits

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Support

Global support by SOLUM and Azure Support Services ensures that the software runs up and up-to-date with the latest patches 24/7, 365 days a year.

This enables your business to benefit from preventive and proactive services provided by our global support centres and service management team.

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Customer Reference of SOLUM SaaS

Our customers trust SOLUM as their solution provider of ESL systems.

By choosing us, we deliver them a SaaS solution that perform beyond their expectations.

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Certifications

The security and privacy of your data in our cloud-based technology is an absolute priority for us. SOLUM guarantees you excellent service, unconditional security for your data and outstanding quality of our systems - as proven by renowned test procedures and certificates. Find out more here and see for yourself.

- **ISO9001 -** Our SOLUM Headquarters in Korea is ISO9001 certified; a testament to our company's commitment to quality assurance and dedication to provide products and professional service support to our partners and customers.
- **ISO27001 -** SOLUM fulfills the ISO 27001 certification of information security controls for any kind of digital information.
- **ISO27017 -** SOLUM fulfills the ISO 27017 certification of information security controls based on ISO/IEC 27002 for cloud services.
- **GDPR -** The GDPR (General Data Protection Regulation) was developed to strengthen and standardize data protection for individuals in the EU. SOLUM is 100% DSGVO-compliant and treats all your data securely and confidentially.
- **CSA-STAR -** Aims SaaS is CSA-STAR certified which further demonstrates the organization's commitment to ensuring the necessary technical and organizational measures are in place to safeguard the privacy of client data.

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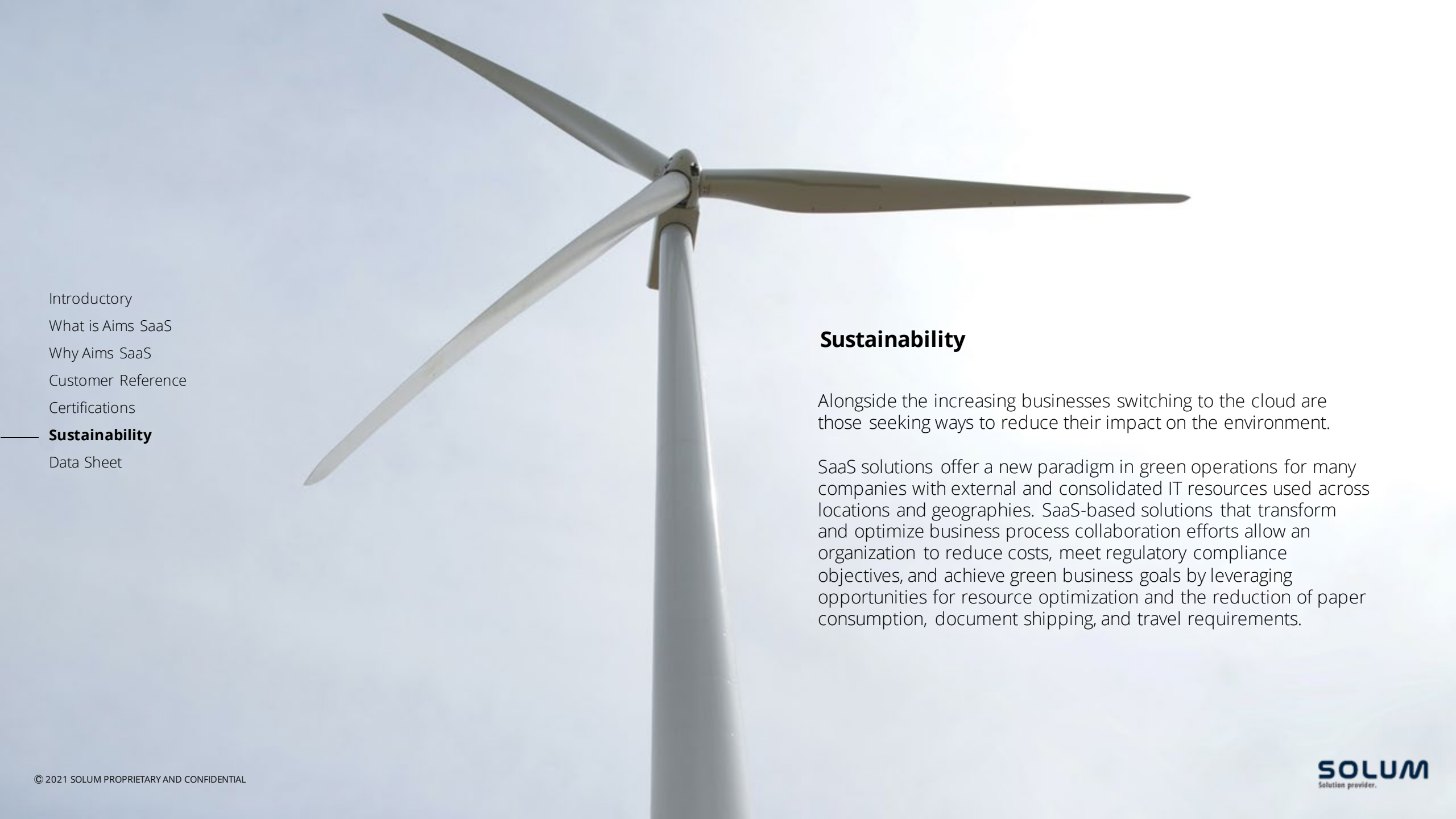

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Alongside the increasing businesses switching to the cloud are those seeking ways to reduce their impact on the environment.

SaaS solutions offer a new paradigm in green operations for many companies with external and consolidated IT resources used across locations and geographies. SaaS-based solutions that transform and optimize business process collaboration efforts allow an organization to reduce costs, meet regulatory compliance objectives, and achieve green business goals by leveraging opportunities for resource optimization and the reduction of paper consumption, document shipping, and travel requirements.

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By leveraging Aims SaaS by SOLUM, you can reap green benefits while transforming your business processes and eliminating the need to internally manage server consolidations, virtualization services, and both hardware and software upgrades.

Aims SaaS leverages a multi-tenant architecture, a crucial factor to check if a solution is truly a SaaS solution. Basically, this allows SOLUM to operate a single Aims application instance for multiple organizations using a single stack of hardware and software, treating all customers as separate tenants who run in virtual isolation from each other.

This means that with Aims SaaS, you can achieve reduced energy consumption and carbon footprints compared to traditional on-premises or single-tenant solutions.

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Items	Aims SaaS
Scalability	Automatic scalability
Capacity	Unlimited and flexible
SLA 24/7	Included
Performance (image generation)	1 million within 5 minutes
Multi-tenant (economies of scale)	Yes
Single Sign-On	Yes
Data Lake	EFK (Elasticsearch, FluentD and Kibana)
Cloud Service Provider	Azure
Security & Backup	Yes
Uptime	99.90%
Recovery Time	4 hours
Certification	ISO9001(HQ), ISO27001, ISO27017, GDPR, CSA-STAR

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THANK YOU!

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