



# SUNLIGHT

## Fast-tracking your restaurant chain's digital transformation with Sunlight

### QSR gets fast and personal

Quick service restaurants are experiencing a surge in post-COVID innovation as customer buying behaviors are changed forever. Customers increasingly demand a better experience - personalization, touchless ordering, smart drive-thrus with pick-up times measured in seconds, and highly consistent food quality.

The good news is that new AI-driven smart applications are appearing that can help deliver on these needs. The bad news is that all these new capabilities mean more IT systems that have to be installed and managed at each location. This leads to high infrastructure costs, more pressure on valuable floor-space, and increased reliance on expensive IT skills to keep things running.

What if you could accelerate in-restaurant application delivery across all your locations, whilst minimizing infrastructure costs, and reducing complexity?

**<\$5,000 per site**

Single node starting price

**10 minutes**

Time to deploy a Sunlight edge node

**Zero**

IT skills needed in-restaurant





## The new shape of quick service restaurants

COVID led to a massive acceleration of quick service restaurants' digital strategies. Restaurants have seen the rapid adoption of multichannel ordering, and a huge shift away from in-location dining to drive-thru and kerbside pickup. This has all been exacerbated by on-going staff shortages and higher employee churn – a trend which is not expected to reverse anytime soon.. These factors have put pressure on speed, throughput and accuracy – reducing the quality of the customer experience, which has a direct impact on customer loyalty and revenue.

QSRs have responded with a number of strategies, including:

- ❑ Increasing use of touchless and multichannel ordering for a seamless customer experience
- ❑ Increasing use of front-of-house automation for better personalisation and upsell, and to slash pick-up times
- ❑ Implementing more kitchen automation – from process control systems through to robotic chefs
- ❑ Rethinking how restaurant space is used to reflect ordering trends

## The rise of smart applications

### **Multichannel and touchless ordering**

Customers love multichannel ordering. The ability to order from a phone or kiosk is increasingly the preferred choice of interaction. In fact 65% of customers in a recent Tilster study prefer to visit restaurants with self-order kiosks over those that don't, and a recent McDonalds study showed that people spend 30% more at a kiosk.

These stats have encouraged some restaurants to go kiosk-only – saving yet more space and easing staff shortages.

### **Using AI for a more personalized front-of-house**

Tied to multichannel ordering is personalization. New AI technologies – such as number plate recognition systems – can identify drive-thru customers instantly and offer them their favorite choices. Voice recognition and synthesis systems can now take orders more accurately than a human being – and never forget to upsell.

This leads to faster order completion, higher customer spend and lower personnel costs.

### **Implementing more kitchen automation**

Integrated kitchen display systems can reduce ticket times by 40%, and ensure multichannel consistency. Inventory control systems can automatically adjust menus based on stock levels, and queue monitoring systems can make sure the fastest items to cook are presented first at the busiest times.

And they're finally here – robots are at last flipping burgers and cooking fries – potentially increasing line throughput by 30%.

### **Rethinking how restaurant space is used**

Rebalancing existing restaurant space away from underutilized seating areas towards drive-thru, car-hop and kerbside capacity can massively increase potential revenue per square foot.

Some chains are experimenting with new small form factor pick-up-only urban restaurants that eschew seating areas altogether, and even casual dining restaurants are experimenting with drive-thrus.



**QSRs should also consider AI and conversational technology to improve kitchen efficiency and streamline operations. These can include natural language processing (NLP) and automatic speech recognition (ASR), which can not only reduce service times by up to 50%, but also improve order accuracy”**

Gartner, Quick Service Must Be Quicker to Retain and Grow Revenue, April 2021



# Typical smart application benefits

## Number Plate Recognition

95% **presto**  
repeat guests identified

## Voice Order Taking

-1 FTE **presto**  
per booth

## Food Safety Monitoring

-50% **COMPLIANCEMATE™**  
HACCP labor costs

## Kitchen Display System

-40% **OSR**  
ticket times

## Robotic Chef

+30% **MISO ROBOTICS**  
line throughput

## Smart Signage

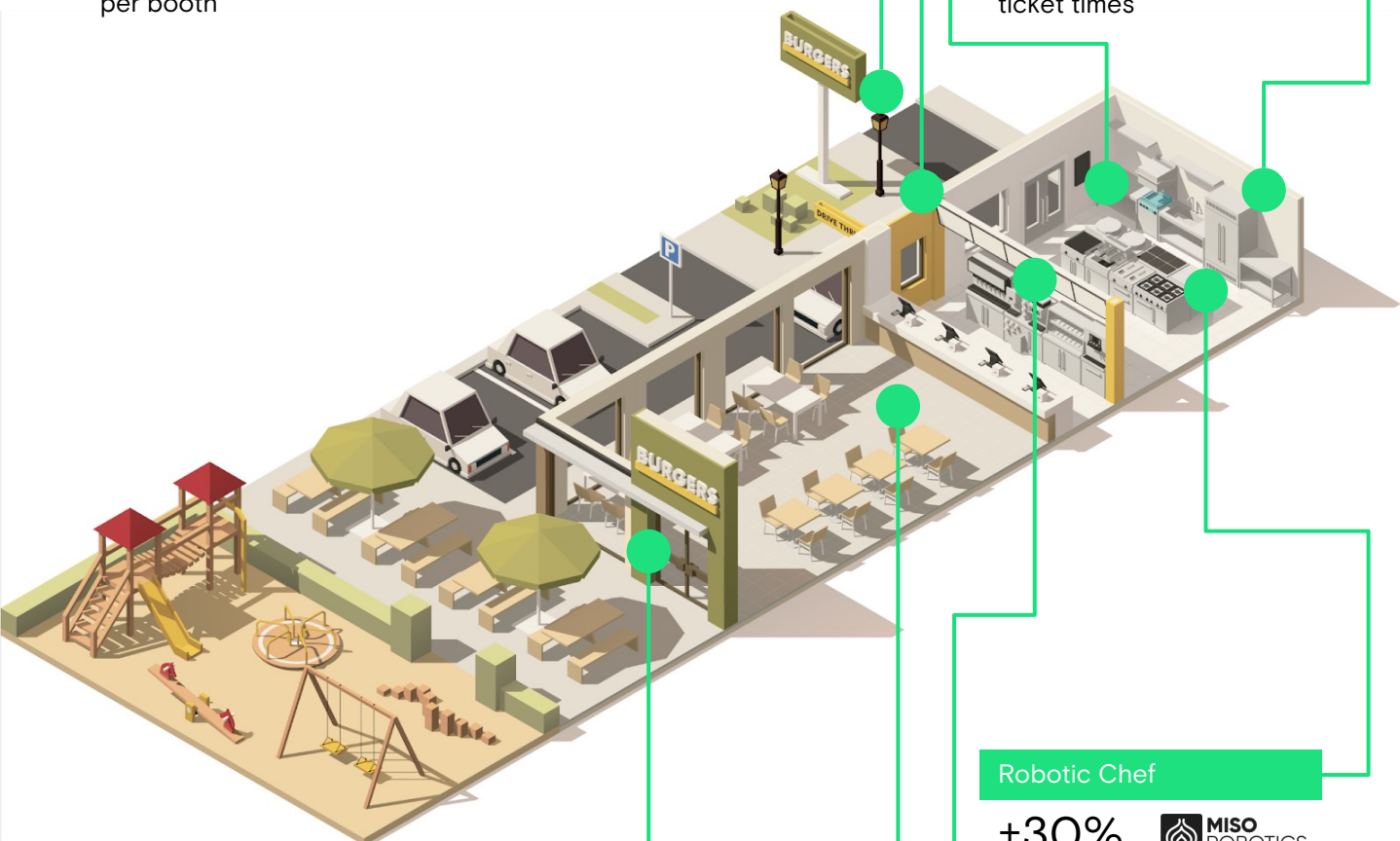
+20% **xenial**  
order size

## POS exception reporting

\$1000s **Interface**  
saved per location p.a.

## Self-serve Kiosks

+30% **PAR**  
spend



FTE = Full Time Equivalent  
HACCP = Hazard Analysis and Critical Control Point

## Smart applications need to run where the data happens

Pure centralized cloud models don't work for connected retail. As a store becomes more dependent upon an increasing number of data-hungry digital services, intermittent wide-area connectivity, latency and data bottlenecks result in anything from poor customer experience all the way through to complete shut down in operations – and corresponding lost revenue. These services need to run where the data happens – in the restaurant, or at the 'Edge'. Characteristics of these services include:

- **Data gravity:** so much data is generated in-restaurant that 75% of it never reaches the cloud. To maximise insight from data and to fully share data between applications, data must be captured, shared and acted upon locally.
- **Instantaneous action:** for applications like kitchen robotics or voice ordering systems, instant responses to circumstances are required – this can preclude cloud round-trip times. For example, a delay of even a couple of hundred milliseconds in voice response makes speech feel extremely unnatural.

- **Business continuity:** if these increasingly mission-critical systems stop working due to wide-area connectivity – revenue is directly impacted.

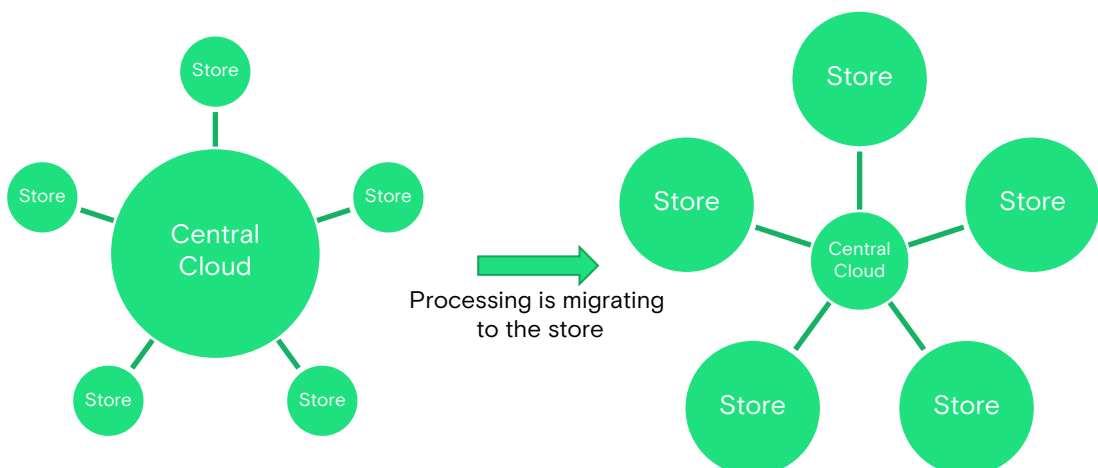
### Edge technology 'sprawl'

As a result, restaurants are filling up with technology 'sprawl' – dedicated pieces of hardware to run each application. All this new hardware is not only expensive, but requires specific management skills for each 'stack', and often lacks the ability to centrally and remotely manage across your 100s or 1000s of locations. And due to re-balancing of restaurant space, the physical space for these systems is in increasingly short supply.



**We have 22 IT systems per restaurant, each on separate hardware and we've run out of space and budget"**

Restaurant technology director, National QSR chain



## Sunlight makes the edge simple

Sunlight makes managing your in-restaurant applications and infrastructure as easy as cloud. Sunlight turns all of your restaurant locations into 'micro clouds' – each running all your restaurant services – legacy and bleeding edge – on a single, highly efficient, small footprint, ruggedised stack of hardware. These micro-clouds are managed remotely as one distributed cloud from a central management dashboard. It also includes an application marketplace which makes it possible to deploy and manage applications across all your sites in a few clicks.

What does this allow you to do?

### 1. Consolidate

Because Sunlight can run all of your legacy and container-based workloads with no loss of performance, you can consolidate your in-restaurant infrastructure from 10-20 discrete systems down to a single highly reliable and centrally and remotely manageable, low cost system that runs all your applications.

Not only does this reduce infrastructure costs by up to 75% – it also reduces the need for truck rolls to install new hardware, and reduces downtime.

**75%** Reduction in infrastructure costs

### 2. Standardize

Sunlight abstracts your workloads from the underlying hardware – so you can use your favourite Lenovo, HPE, Dell, Supermicro or specialized hardware vendor with confidence. In fact, you can order key vendor hardware pre-installed with Sunlight and pre-configured, delivered directly to your edge locations from the Sunlight ordering portal. Just connect it, power on, and the new cluster will attach to your central management dashboard with no on-site skills required.

Because all your applications are stored as Ansible-based recipes in the Sunlight Application Marketplace, they can be deployed or updated with a few clicks.

Now, when a new restaurant is commissioned, you can push out a complete pre-configured hardware and software IT build with ease, reducing time to market by 70%.

**70%** Faster time-to-market

### 3. Innovate

Deploying new applications without incurring extra hardware costs is simple with Sunlight – just create a recipe in the Sunlight Application Marketplace and deploy on-demand onto your shared cluster in any location.

If you're looking to use Arm-based edge servers – Sunlight can run on these too – enabling new video analytics and very low power applications.

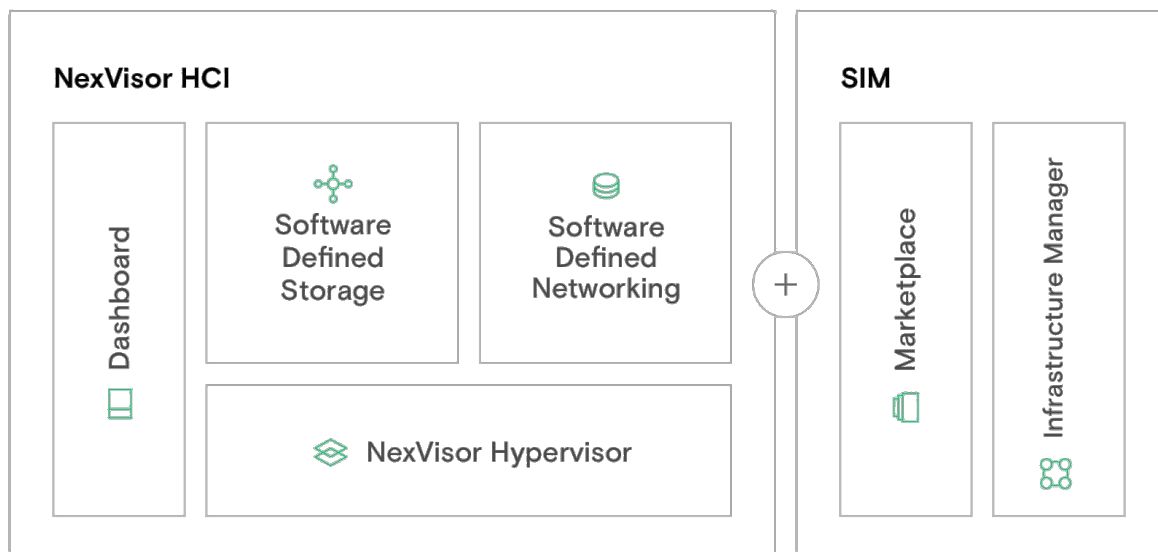
**\$0** Incremental cost to deploy new application

“

**Sunlight has made it possible to deliver a consistent set of applications across our restaurants and franchisees ‘as a service’ – meaning a truly seamless and on-brand experience for all our customers”**

Restaurant technology director, National QSR chain

# Sunlight is a complete edge infrastructure platform



## The Sunlight NexVisor Stack

Sunlight provides a complete software-defined edge infrastructure platform that makes deploying and managing edge applications easy. It enables you to run all your VM-based and cloud-native applications on a common hyperconverged platform with full high-availability and isolation – even on constrained hardware.

It's simple – all-in-one compute, storage and networking, and centralised application deployment and management. No need to licence and integrate separate virtualization, software defined storage and management tools.

### Leverage new Arm servers

Edge hardware is all about efficiency, which is why Arm hardware is becoming increasingly popular. Sunlight is the only

edge platform that runs on both x86 and Arm based hardware so you can choose the best tools for the job.

### Manage your edge locations

Sunlight Infrastructure Manager (SIM) centrally manages and monitors 1000's of locations, edge-to-cloud, from a single pane-of-glass

Together with the Sunlight Marketplace, this allows you to fully automate the end-to-end deployment of applications – all powered by the Sunlight platform and our network of certified partners.





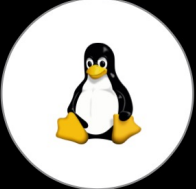










### True edge-as-a-service

Pulling it all together – Sunlight makes it possible to deliver a true edge-as-a-service capability for your business, letting you focus on delivering business outcomes.



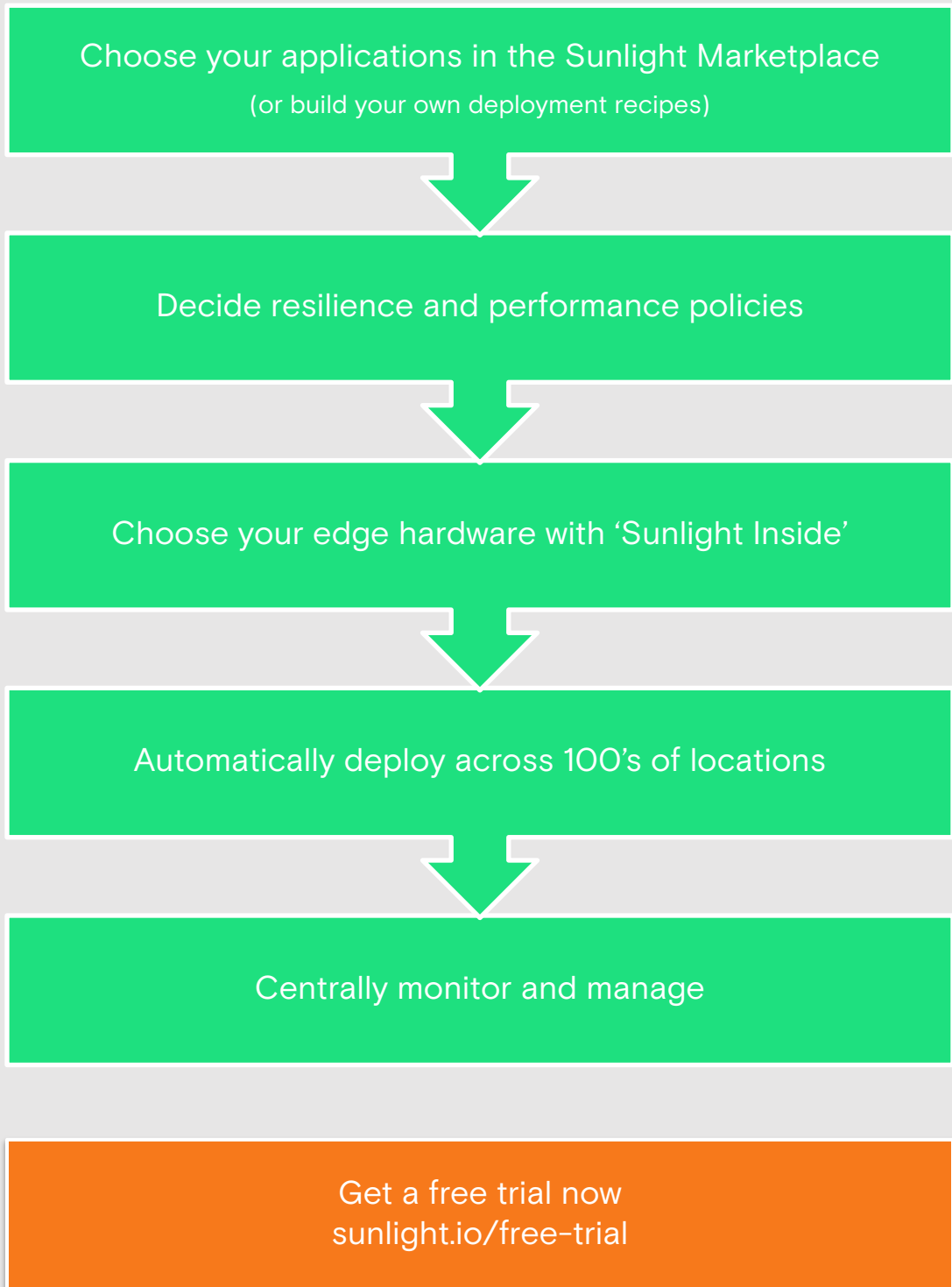
Sunlight works with your entire in-restaurant tech ecosystem

Any application  
Any app architecture  
Any CPU/GPU  
Any hardware



## How to get your in-restaurant applications onto Sunlight



## The new edge economics

Edge economics are nothing like the data center. Sunlight offers simple, transparent subscription pricing that comes in at 1/8 the TCO of existing solutions.

Sunlight can run as a single node in each location, or a minimum of two nodes for high availability. Because of Sunlight's tiny footprint and high performance, clusters of resource-constrained servers can still run several applications at once. This keeps hardware and software licencing costs low.

## Simple deployment

Sunlight can be ordered pre-configured on your favourite edge hardware from reseller and SI partners, and shipped directly to each edge location. The configuration can include pre-registering the cluster with an existing SIM.

This makes commissioning a cluster straightforward. Once a cluster has been delivered, it is connected to the network and powered on. It will then automatically connect to the remote SIM, from which point the correct applications can be remotely installed. The whole process takes a matter of minutes.

## Sunlight's Approach to Edge Infrastructure



All Clusters managed from a single platform, hosted in cloud or On-Prem



Small footprint, power efficient



Zero-touch Edge device onboarding



Single API for integration with Infrastructure as Code toolsets



Support for Virtual Machines, Containers and Kubernetes distributions



Support for GPUs for AI, vision and Machine Learning use cases

Try it for free  
[sunlight.io/free-trial](https://sunlight.io/free-trial)



[sales@sunlight.io](mailto:sales@sunlight.io)



[www.sunlight.io](https://www.sunlight.io)



Castle Park, Cambridge, United Kingdom

# SUNLIGHT

14 Nov 2022

Sunlight makes performance possible anywhere - from the cloud to the edge. Demanding applications like AI, Big Data, Analytics and Rendering run 3x faster on Sunlight compared to legacy virtualisation, and because Sunlight has a tiny footprint - it's perfect for the edge.

Enterprises and MSPs use Sunlight to cut the costs of delivering high performance IT by 70%. Sunlight is a complete HCI stack that can be deployed on-premises, in AWS, and on resource-constrained far-edge devices.

in

Twitter