

Buyer's Guide



Beyond the Barcode: Smart Data Capture

The emerging business imperative
for richer, smarter data collection



in association with

SCANDIT

About this guide

This document is intended as a quick reference for COOs and other senior business managers. It is concerned with the technology we use to identify and track goods, assets and other tangible objects as they move around within the business, along supply and demand chains, and within the customer and public domains, for example via barcode, QR-code and ID scanning.

Specifically, we'll discuss the impact of an important shift that's taking place from a hardware to a software-centric approach. Rather than each type of scanning device being powered by proprietary software, we're moving to a world that increasingly revolves around standards-based, open software that can drive a whole range of different devices in a smarter and more consistent way. This enables any camera-equipped programmable device to be turned into a smart scanner, from traditional scanning equipment, through commodity phones and tablets, to specialist robots and more. This focus on standard software also opens the door to other transformational developments such as the use of augmented reality user interfaces and no-code integration of scanning functionality into pretty much any on-device app.

Why this conversation, and why now?

In today's digital world, the adoption of smart data capture is becoming a strategic imperative for businesses striving to enhance operational efficiency and secure real-time insights. This urgency is driven by the need to align digital records accurately with real-world occurrences. Traditional data capture methods, reliant on proprietary hardware and vendor-specific scanners, have introduced challenges like inflexibility and increased costs. Additionally, the software, often narrowly focused on basic scanning capabilities, has limited the ability to adapt to evolving business requirements, resulting in processes that are cumbersome and heavily dependent on manual oversight,

Smart data capture marks a pivotal shift, allowing solutions that integrate flexible, intelligent technologies to mitigate vendor dependency and raise both system adaptability and the end-user experience. Central to this transformation is the role of software able to harness the full potential of smart data capture. Employing adaptable, intelligent software solutions, businesses can transform data capture, addressing current inefficiencies while paving the way for future innovations. Such a strategic focus could optimise existing operations and provide greater business flexibility in an evolving digital landscape. Smart software can drive the effectiveness and adaptability of smart data capture systems.

The Buyer's Guide Series

Like all Freeform Dynamics Buyer's Guides, this document, which was commissioned by Scandit but authored independently, is not intended to be an exhaustive treatment of the topic. Our aim is to provide a concise overview of the essentials in this area, firstly to help orientate those involved in planning and decision-making, and secondly to make sure business cases and solution selection criteria focus on the things that really matter.

For more Buyer's Guides on other topics please, visit www.freeformdynamics.com.

Intelligent solutions change the game

Without going into too much detail, the key thing about modern smart data capture solutions is that they are defined by software, not by specialist hardware. This means that they can exploit the fast processors and high-resolution cameras found in modern smart devices, and it's this that's the game changer.

Together with a high-resolution screen plus sophisticated image recognition and processing software, it means you can turn even a commodity smart device into a highly flexible scanner. This is able to both integrate with business applications in real time and interact dynamically with the user, including via augmented reality (AR), which enables a live information overlay on the camera view.

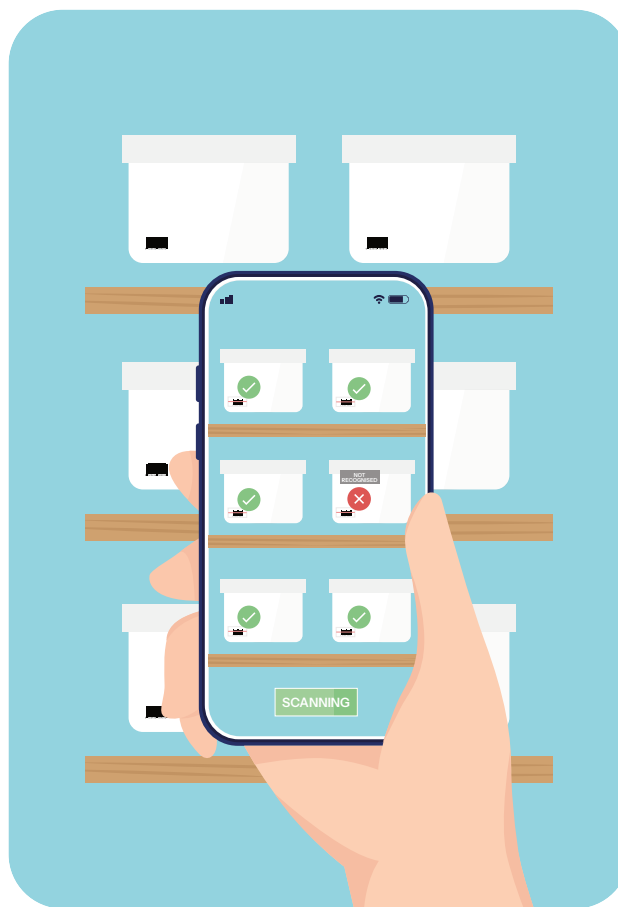
The smart data capture opportunity



Enables multi-modal batch scanning and recognition of multiple items in a single, efficient operation.



Real-time two-way integration with back-end systems enables the user to act on feedback and alerts.



A live AR overlay can provide a visual representation of success, failure and related information.



Versatile approach for dedicated scanners smartphones, tablets, robots, drones, and other open devices.

Smart data capture solutions can streamline workflows associated with many use cases, from warehouse and logistics work such as picking, dispatch and receipt, through stocktaking and other visibility related activities, to specialist applications such as retail customer self-service, or physical asset management and maintenance.

Of course, while the addition of camera-equipped smart devices vastly changes the kind of data we can gather and what we can do with it, they are unlikely to fully replace traditional scanning equipment. By encompassing both, smart data capture expands your options today, and as it embraces more devices and form factors over time, it will progressively account for an increasing proportion of deployments.

Engaging your technical teams

Something you may need to address as a business leader and project champion is that busy technical teams won't always know what modern technology solutions are capable of. It's essential to involve them though, as implementation of smart data capture typically requires a degree of software development and systems integration. Hopefully we've covered enough in this guide for you to drive that conversation confidently. And when you get into requirements and plans, it's important to ask questions if you hear proposals to implement more of the same proprietary technology used in the past.

As you progress your discussions in this area, it's also worth taking note of the phrase 'software stack'. In the technology context, this generally refers to a collection of software components and a set of policies and processes that together form a standard interface and methodology for connecting to applications. Again, quiz your technical colleagues on their thinking and the approach they are proposing to meet future needs.

To help you steer the conversation, here's some key things that the right smart data capture solution should help your organisation with.



Minimise IT and development effort

Low or no-code solutions or standard, open, reusable components can reduce effort, harmonise systems and streamline support.



Shift the pivot point into software

Remove hardware-based lock-in and constraints, and allow any business system to be integrated with the smart data capture environment.



Embrace advanced interaction models

Leverage the latest ideas in computer vision and augmented reality, and lay the groundwork to exploit emerging wearable options.



Enable real-time visibility

Provide insights and asset visibility in real-time to all who need them, from frontline workers to security and compliance staff.



Adopt a more 'evergreen' approach

Select software stacks with multi-modal data capture and analytics capabilities, to allow you to scale and adapt in the future.



Turn data capture into a value creation activity

Take advantage of the flexibility, simplicity and speed of smart data capture in innovative ways that enhance revenue and margin.

Taking it forward effectively

If the idea of smart data capture resonates with you, then your priorities as a business operations leader should include working with your technical colleagues to leave old habits and behaviours behind as you shift from a hardware-led approach to software-first. You could start this by intercepting current procurement activity, heading off proposals to buy solutions based on proprietary hardware and software.

It's obviously best, however, to course-correct in a more planned and positive way, starting with quick wins to gain support and trust while you review your facilities and needs in the longer term. With this in mind, we'll leave you with some final thoughts on how others have found success.

Groundwork

Explore the latest ideas around smart data capture and take time to understand the art of the possible. You can find lots of information and examples on the Web, along with suppliers who are typically ready, willing and able to bring you up to speed.



Assessment

Review your current data capture facilities critically, looking for the kinds of inefficiencies and other issues we've covered. Also look more broadly to other areas of the business that might benefit from what modern smart data capture has to offer.



Initial planning

Identify opportunities that deliver quick wins while laying the groundwork for future development and innovation. As part of this you need to consider how investments will be funded, given that early investments will be leveraged across the business.



Get everyone on board

Success here will rely on the enthusiasm and commitment of everyone from business and technical teams to frontline workers. Win executive buy-in as part of this on the basis of ROI, new value creation and better overall business visibility, control and agility.



About

Freeform Dynamics

Freeform Dynamics is an IT industry analyst firm. Through our research and insights, we help busy IT and business professionals get up to speed on the latest technology developments and make better-informed investment decisions.

For more information, visit www.freeformdynamics.com.

Scandit

Scandit is one of the world's leading smart data capture companies. It was founded to capitalize on advances in smart device technology, enabling collection of data from tangible assets and physical operations to happen in a fundamentally different manner to existing data capture methods.

The Scandit [Smart Data Capture Platform](#) is a flexible software-based platform that benefits from continuous innovation to adapt and evolve in changing business environments. It automates scanning of barcodes, text, IDs and objects and supports more than 20,000 models of smart devices.

For more information, visit www.scandit.com.

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