AUTOMATED DATA COLLECTION
HOW THINGS HAVE CHANGED...

Over the past seventy years, there have been remarkable innovations driven by new technologies and new applications and new industries. Barcodes are now used almost everywhere - in all walks of life and business - and the impact of automated data collection is ever-evolving. As we look forward to an exciting future, let’s take a backwards glance at how it all began!

### 1948
The evolution of the modern barcode began in 1948, when Norman Woodland and Bernard Silver began to look at how to develop a system that could automatically read information at point of sale checkout. A U.S. patent was granted shortly after in 1952.

### 1966
In 1966, the barcode was first commercialized and, a year later, RCA installed one of the first ever scanning systems at a store in Cincinnati. Product codes represented by “bar codes” - a set of circular bars and spaces of varying widths. Addressing the need for a standard, industry-wide barcode system took a further three years, until, in 1970, the UPC (Uniform Product Code) symbol set was adopted – one that is still in use in the USA today.

### 1974
On 26 June, one of the first UPC scanners was installed at Marsh’s supermarket in Troy, Ohio. The first item to be scanned was a 10-pack of Wrigley’s Juicy Fruit gum. This was the first commercial appearance of the UPC.

### 1976
Based on the original barcode, a 13th digit is engineered for the European, Asian and Australasian markets due to growing international demand and the need for country codes to be adopted. The European Article Numbering (EAN) Association is established as an international standards organization (GS1).

### 1982
The introduction of the first Charged Coupled Device (CCD), a scanner which in essence has the same kind of imaging sensor found inside a legacy digital camera. The same year also sees the introduction of the first hand-held scanner.

### 1983
IFS is founded in 1983 and, in an eventful year, the first U.S. patent to be associated with radio frequency identification (RFID) is granted. Consisting of three components (antenna, transceiver and transponder tag), RFID becomes increasingly used in industry and manufacturing.

### 1994
The Checkerboard symbology, 2D Data Matrix barcode is invented, designed for high-speed component tracking. First barcode software for mobile computing also invented.

### 2008
Cedar Bay (Europe) Ltd is founded by Roger Teasle, building a team with extensive expertise and experience in data capture solution. Cedar Bay soon signs its first formal agreement with IFS Europe West.

### 2010
By 2010, 12.5 billion devices are connected to the internet – almost double the number of people alive on the planet. The network of multiple devices able to collect and exchange data in business and in the home, becomes known as the Internet of Things.

### 2012
In October, Cedar Bay sponsors its first IFS World Conference, in Gothenburg, Sweden and begins transatlantic operations in North America.

### 2015
Cedar Bay implements its first direct machine integration project with a Palletiser and releases the Supplier Portal – VPrint.

### 2016
Channel partnership agreement signed between Cedar Bay and IFS Europe West.

### 2017
Cedar Bay launches chariot ERP to business connect to support Industry 4.0 and the Industrial Internet of Things. Originally known as “Industrie 4.0” due to its German origin, Industry 4.0 (the fourth industrial revolution) ties individual technologies into a cohesive whole, working to collect and collate the massive amounts of data now available.

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**HOW WE CAN HELP**

Streamlining and Simplifying Your Business with IFS Applications

At Cedar Bay, we understand the challenges facing modern businesses as they try to improve effectiveness and reduce costs. We deliver mobility and automated data collection solutions to customers around the world, helping companies streamline and simplify their business processes surrounding the use of IFS Applications.

IFS is globally recognized for its agile enterprise resource planning (ERP) solution. As a valued partner, Cedar Bay implements IFS Applications, allowing companies to manage and integrate areas such as planning, purchasing, inventory, shop orders and sales. With years of experience in implementing largescale ERP solutions, our long-held expertise in manufacturing and supply chain puts us in a unique position to deliver the best solutions for customers in the IFS community.

The Cedar Bay automated data collection software delivers over 80 standard transactions and a simple-to-deploy, flexible, integrated solution. It eradicates errors from your business processes, capturing information at point of creation and improving accuracy and traceability. Our Industrial Internet of Things (IIoT) connector, chariot, enables manufacturers to send messages from machines that automate Cedar Bay transactions.

In 13 countries across three continents, we work in close partnership with our customers to rapidly deliver solutions to meet their objectives, implementing complete cost-effective projects including software, hardware, infrastructure and on-going support. When delivering a robust and useable solution, our knowledge of appropriate hardware, and our user training programme, helps optimise its practicality, to ensure your project runs smoothly.

We look forward to working with you!

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**MARKET SECTORS**

Manufacturing and distribution, automotive, medical, oil and gas, food and beverage, engineering and project.

**HOW WE CAN HELP**

- Software for Automated Data Collection
- Touch App, IIoT Integration and Mobile App Development
- Hardware and Wi-Fi Infrastructure Deployment
- Implementation Services
- Business Process Audit and Review
- Label Design and Development
- Machine and PLC Integration

**MARKET SECTORS**

Manufacturing and distribution, automotive, medical, oil and gas, food and beverage, engineering and project.
THE SMART FACTORY

Manufacturers are looking to Smart Manufacturing and Industry 4.0 to embrace the benefits of digital technology, making the concept of The Smart Factory a reality. The structure of a smart factory combines information, communication and production, across the entire manufacturing supply chain. With the advent of the Cloud and Industrial Internet of Things (IIoT), companies now have access to more data than ever before and, through automation and self-optimisation, the entire manufacturing plant can improve processes by connecting the individual operations of the factory.

LOCATION TRACKING
Automatic recording of shipment of pallets.

WAREHOUSE OPTIMISATION
Streamline advanced warehouse optimisation direct into IFS.

PALLETER
Record packing operations and preparation of shipments.

END OF LINE REPORTING
Touch screen transaction and full machine integration to simplifying production recording and labelling.

OFFLINE
Offline transactions for specific areas that suffer from connection failure or have mobile security or environmental restrictions (ATEX).

MAINTENANCE
Real-time reporting of works order transactions for time, material and status.

SUPPLIER PORTAL
Helps your suppliers manage labelling of shipments, allowing you to receive the goods in to stock with a single scan.

MOBILE ENHANCEMENTS
Custom mobile application for specific transactions to provide offsite integration back to IFS on any platform.

RECEIPT/QUALITY ASSURANCE
Use mobile technology to manage control plans and inspection results in real time.

SMART TECHNOLOGIES
charIOT direct machine and scale integration solutions to help optimise and automate processes.

WAREHOUSE OPTIMISATION
Streamline advanced warehouse optimisation direct into IFS.
KEY TRANSACTIONS

Smart Manufacturing / Industry 4.0 is now used in common terminology, encompassing the latest digital technology available to the manufacturing world. At Cedar Bay, we have worked with this technology for many years and we know what options are available for manufacturers and how they can derive maximum benefits from its use. We know what the driving factors behind Industry 4.0 are and we know how to help our customers improve production efficiency, delivery reliability and increase profit margins. We work closely with our customers to implement the application of a bespoke range of configurable transactions; to create an advanced manufacturing environment that’s unique to each particular customer.

The Cedar Bay solution supports Windows, Android and iOS devices and tablets and hosts over 80 standard transactions, providing functionality across all areas of business, from receipt to shipment, service to maintenance. Our IIoT connector, charIOT, simplifies the connection of machines, production measurement information and other feeds, which in turn allows the automation and collection of numerous types of transactional data into IFS.

KEY BENEFITS

In getting the most from all the available data, companies can add business value by integrating more technology into their processes. Key benefits extend beyond simply the physical production of goods, into planning, supply chain logistics, inventory and even product development. The Smart Factory adopts the process of real-time information feeds, which in turn allows the automation and collection of numerous types of transactional data into IFS.

LOGISTICAL BENEFITS

Functionality, traceability and visibility are all important areas that our solutions address. Processes which are difficult to implement when the user is presented with a screen, become possible to integrate using mobile products and within the normal flows of activity. This is often the case with traceability, where capture of lot or serial information is difficult if the users have to write the information down and transact later: where users have a scanner it can be scanned quickly as part of an issue or receiving process.

The Cedar Bay data capture solution delivers a huge degree of flexibility within our IFS solution, allows us to configure options per site and is very simple to use as part of the IT infrastructure, in so much as it requires no additional servers or databases.

“Apart from the obvious savings in time and money, Cedar Bay’s solution has allowed us to streamline the receipt of goods and remove data entry errors, removing the need for complex MDM software. The project was delivered on time and within budget.”

Paul Reed, IT Director, WNA (North America)

FINANCIAL BENEFITS

The Cedar Bay solution enables a rapid return on investment (ROI) by increasing productivity and assisting production and financial efficiencies. Real-time data increases inventory accuracy, reducing costs in data entry and improving cash flow. It also provides improved visibility across all areas of the business, reducing time in correcting errors and releasing cash flow tied up in stock.

“The Cedar Bay data capture solution means I have never had to spend hours re-entering data; it has removed the risk of product mis-shipment.”

Paul Doswell, Head of IT (UK and Europe), Kettle Foods

OVERALL STRATEGIC BENEFITS

Many of our customers view us as a strategic partner, enabling key areas of their business to operate successfully. As a key enabler in the drive towards Industry 4.0, our mobile solutions allow operators to enter and validate data through over 80 IFS processes, enabling the streamlining and improvement of business processes. Providing accurate data for real time decision-making, enabling production efficiencies and increasing staff productivity, are all key benefits that bring a rapid return on business investment.

“The Cedar Bay implementation was one of the best IT projects I have ever been involved with. The project was delivered ahead of schedule and under budget.”

Alex Ivkovic, IT Director, CDF Corporation

BUSINESS BENEFITS

Cedar Bay projects always focus on our customers’ objectives: real-time data capture eliminates any transcribing issues and speeds up processes, many of which deliver extra benefits by using validation which is built into the Cedar Bay processes. Areas such as picking and shipments allow the operator to scan the product, so that verification takes place, eliminating the risk of product mis-shipment.

“The use of Cedar Bay has allowed us to streamline the receipt of goods and remove data issues relating to the third party integration, creating an annual saving of around £100K.”

Kevin Andrew, Inventory Data Manager, Heaven Hill Brands

IT BENEFITS

From an IT perspective, the Cedar Bay solution is a one-stop for automated data collection, being easy to roll out and offering a flexible and configurable system that is reliable and robust. The solution has been developed to enable the use of many different types of devices and it is centrally-managed so that complex MDM software is not required. It gives the ability to connect to IIoT devices and to incorporate the most advanced technology.

“The Cedar Bay solution is a strong business partner, with great commercial terms for both implementation and on-going operational costs, which saves us time and money.”

David Harmer, MIS Manager, Trelleborg Offshore

“We have worked with Cedar Bay for over 10 years and we know what options are available for manufacturers and how they can derive maximum benefits from its use. We know what the driving factors behind Industry 4.0 are and we know how to help our customers improve production efficiency, delivery reliability and increase profit margins. We work closely with our customers to implement the application of a bespoke range of configurable transactions; to create an advanced manufacturing environment that’s unique to each particular customer.”

Paul Reed, IT Director, WNA (North America)