

# knitelligence<sup>®</sup> machine generation

# knitelligence® machine generation

STOLL

Software issues related to knitting machines are becoming increasingly more important for STOLL and the entire industry.

Knitelligence® represents "Stoll's Industry 4.0,.". It is a modular system that combines our software solutions under one platform covering the entire value chain of flat knit production.

With knitelligence® components you will benefit from an efficiency increase, along with high productivity throughout the entire value chain of flat knit production due to the high automation grade.

Stoll machines also provide an efficient, automated, fully digitized production, as they interact optimally with all knitelligence® components.

The new **knitelligence® machine generation** is prepared for the special requirements of the modern digital era: process automation, transparency, digitization, shorter response times, shorter production cycles, networking, new business models, etc. to name just a few facts and improvements.

Knitelligence® machine generation benefits at a glance:

- Connectivity
- Yarn feeding improvements
- Knitrobotic®
- Efficient operations
- Special features
- Optical enhancements

# Connectivity

## Subject: Connectivity

**Remote desktop to other devices.** Here some examples:

**M1plus:** changes in the mdv program (M1plus file) can be made directly at the machine without having to walk back to the M1plus station (during pattern development)

**PPS:** All tasks which can be done at the PPS-workstation can be also done at the machine e.g. change a order to another machine, view which machine is knitting the same order etc...) machine without having to walk back to the PPS station.

**Spare Parts Catalogue, etc...**

**Benefits:** Error reduction and time saving



## Subject: Connectivity

### Extended Knit Report (EKR) standard for all machines

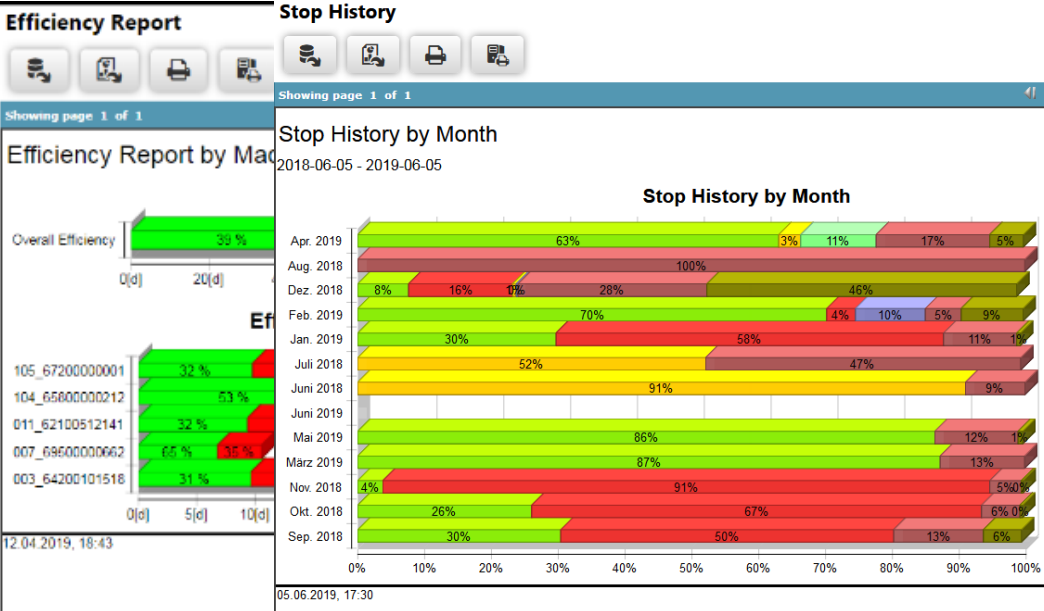
- No yearly license (EVP) required to use the Extended Knit Report.
- PPS as whole system has to be installed to be able to use the standard features: PPS-knit Report; Data management; Infrastructure management. The **installation includes charges** for the customer

## Subject: Connectivity

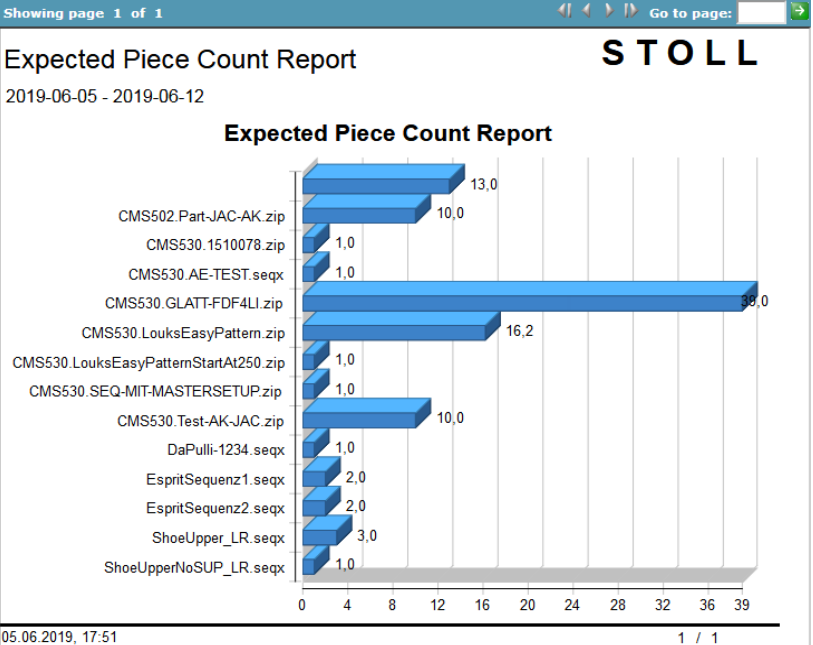
PPS

|                              |                                                                                                                                                                                                                                                                                                                                                                                               |          |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| PPS- Extended<br>Knit Report | <b>PPS-STOLL-Knit Report®:</b><br>- Acquisition and evaluation of machine and production data<br>- All PPS reports available                                                                                                                                                                                                                                                                  | standard |
|                              | <b>Data management</b> with SNS: Stoll Nameserver: Modern technology to simplify your day-to-day operations<br>- Central storage of specific information from the entire machine park (machine configuration)<br>• EKC and OKC machines are <b>automatically</b> registered in the database and update the values continuously.<br>- File-servers management for easy access from the machine | standard |
|                              | <b>Infrastructure management:</b> Central configuration and administration<br>• Users and authorizations; shift definition; VNC and MSD (Mass storage device)<br>- Graphical machine park status available<br>- Easy remote access<br>• Alarm and messaging system (Timely alerting of deviations; Operators' alarm-support call...)<br>• Backup of machine data and Log files                | Standard |
| PPS-Production<br>management | <b>Planning and monitoring of production and maintenance</b><br>- Routing system: tickets assignment<br>- Determination of completion date<br>- Analysis of production capacity<br>- Planning of yarn quantity<br>- Quick finding suitable equipped machines<br>- Quick visual monitoring of plan deviations<br>- Graphical display of production cycles in real time<br>(...)                | EVP      |
| Auto<br>production           | <b>Auto Production Mode (APM)</b><br>Fully automatic knitting of orders without manual intervention                                                                                                                                                                                                                                                                                           | EVP      |

Graphical efficiency reports. Some examples:



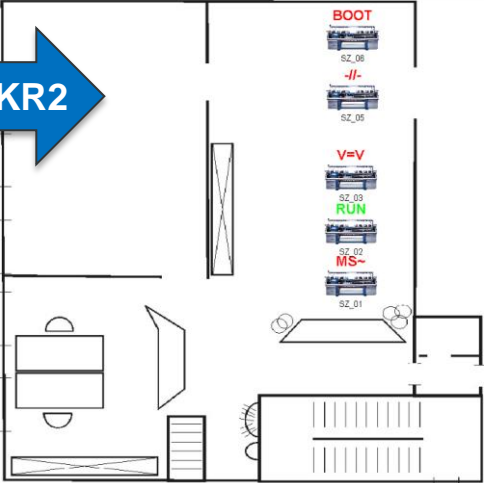
### Expected Piece Count Report



Subject: Connectivity

Graphical efficiency reports. Some examples:

With SKR2



With PPS

A screenshot of a web browser displaying the 'Machine State' interface. The browser address bar shows 'f150803:8080/pps/public/devices/status/floorplan/SIM\_Itma2015'. The interface includes a navigation menu with 'Orders', 'Reports', 'Devices', 'Yarn', 'Configuration', and 'Decrease Menu'. A user profile section shows 'My user profile' and 'Logout'. The main content area displays a 3D floor plan with machines represented by colored blocks (green, yellow, orange, red). At the top of the main area, there are status indicators: 'All Devices', 'SIM\_Itma2015', 'Full-screen', and a summary row: '0 Offline', '13 OK', '0 Repair', '0 In Service / Setting up', '1 Limited', and '2 Stopped'. The STOLL logo is visible in the top right corner of the interface.



# knitelligence® machine generation

Subject: Connectivity

The screenshot displays a machine control interface with a dark header bar. The header contains several status indicators: a warning icon, a speed indicator '0.60', a '0' value, another '0.0' value, a '9' icon, and the text 'CMS530.GanzVieleS0ReihenPPS'. On the right side of the header, it says 'StollService Shift 2' and shows a user profile icon.

A dialog box is open in the foreground. At the top of the dialog, there is a yellow button with an envelope icon and the text 'Send Message'. Below this, the text reads 'Send Message' and 'The message will be sent to the alarm system of PPS.' Below the text is a yellow bar with a person icon and the text 'Maintenance', and a grey bar with a person icon and the text 'Senior Operator'. The main area of the dialog contains the text 'Please come to replace broken needle'. Below this is a virtual keyboard with keys for numbers, letters, and symbols. At the bottom of the dialog are 'Cancel' and 'OK' buttons.

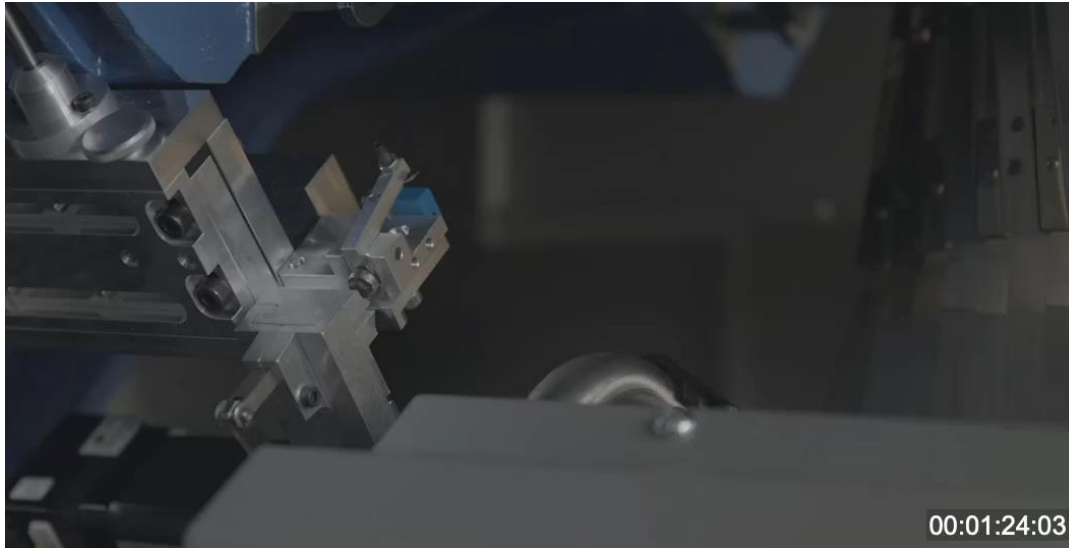
In the background, a larger version of the same interface is visible. A yellow 'Send Message' button is circled in blue. To the right of this button, the text 'STOLL' and '1:15 PM' are visible. A vertical sidebar on the right contains several menu items: 'Set up Order', 'Produce Order', 'Maintain Machine', 'Configure Machine', 'View Data', and 'Help'. At the bottom of the interface, there is a row of buttons: 'Monitor Production', 'Edit Ticket', 'Intervene Manually I', and 'Intervene Manually II'.

**STOLL - knitrobotic®**



STOLL-knitrobotic<sup>®</sup>

Functional extension of Stoll flat knitting machines with a knitrobotic-kit, that enables a fully automated insertion of pieces and materials during the knitting process to replace manual interventions without interruptions.



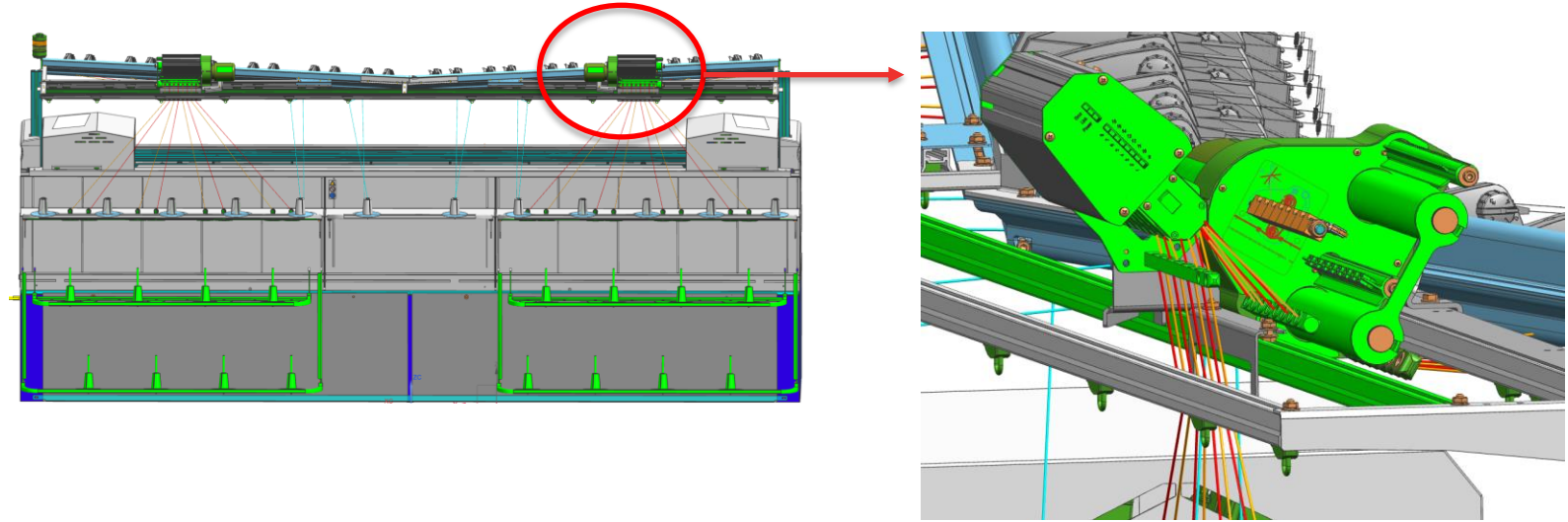
# Yarn feeding

## Subject: Yarn Feeding

- **Possibility to connect up to 4 feed wheels without transformer** (power supply interface for 54V DC).  
Benefits: Customer doesn't have to purchase an expensive transformer to be able to use up to 4 feed wheels.
- **Connection with CanOpen interface**
  - Bidirectional communication/data transfer between electronic feed wheel(s) and machine centrally through machine program with high data transfer rate
  - Kit (power supply + electronics (transformer) + connection cable) → purchased at Stoll
  - At the moment interface available for EFS from Memminger; for LGL is being developed; others: in sight
  - It can also be used on previous machine generations (OKC5/OKC6/EKC1/EKC2)
- **ASCONE from above for ADF machines.**
  - For all ADF models
  - The kit can be used on OKC3 control generation onwards (exception ADF 530-16: from EKC1 on)
  - Expected availability: July

Benefits: no need additional lateral covers to use ASCONE and friction feed wheels

## Subject: Yarn Feeding



- **ASCON from above for ADF machines.**

- For all ADF models
- The kit can be used on OKC3 control generation onwards (exception ADF 530-16: from EKC1 on)
- Expected availability: July

Benefits: no need additional lateral covers to use ASCON and friction feed wheels

# Efficient operations

# knitelligence<sup>®</sup> machine generation

## Subject: Efficient operations

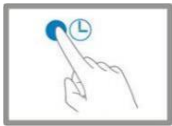
### • New Multi-Touch Panel

#### Benefits:

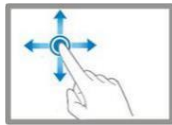
- Improved legibility
- Usability: capacitive touch (previously resistive): faster machine/display reaction
- New gestures



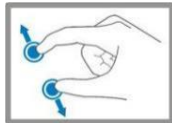
Tap



Tap and hold



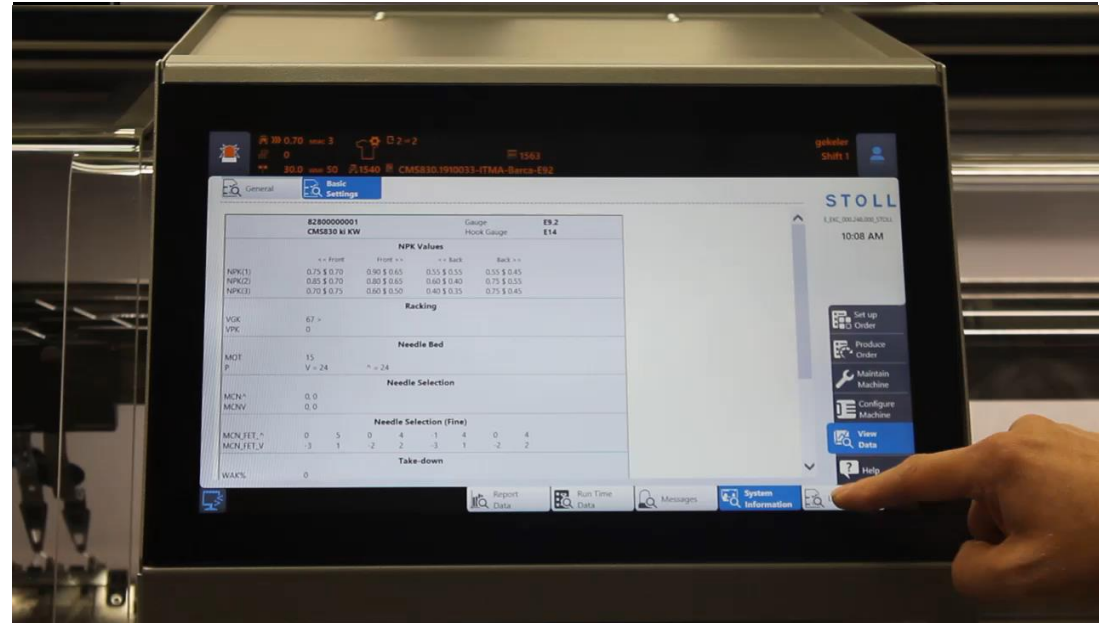
Swipe



Zoom In



Zoom out





## Subject: Efficient operations

### Basic machine settings that can be imported and exported:

- carriage speed settings;
- suction device settings;
- cleaning selection
- system settings;
- many operating settings;
- Lubrication settings

**Benefits:** Same settings on all required machines; Error minimization; Fast machine configuration

## Subject: Efficient operations

### Options through USB interface

- **Individual registration via RFID (Radio Frequency Identification): Automated individual registration (when the machine is connected with the PPS system)**

**Benefits:** no boring and laborious typing of the own identification → modern, faster, easier

- **QR- and Barcode-Scanner (machine with PPS)**

**Benefits:** Faster message report; scan Order number; Send standardized notifications/messages; Support for operators: report production errors, call maintenance, call senior operator...;



# Special features

## Subject: Special features

- **Devore with 1 system (Devore-kit): Benefits:** more flexibility and productivity; No need to use a second system to knit devore techniques; A wide range of yarns can be used as binding thread

Availability: at the moment kit for ADF 530 ki E18/16. Further kits will be created within this year. Can be used on EKC1 generation.

### - **ADF upgrade**

Possibility to upgrade **ADF 530-16 models** to:

- 24 yarn carriers: for coarse gauges
- 32 yarn carriers: for fine gauges

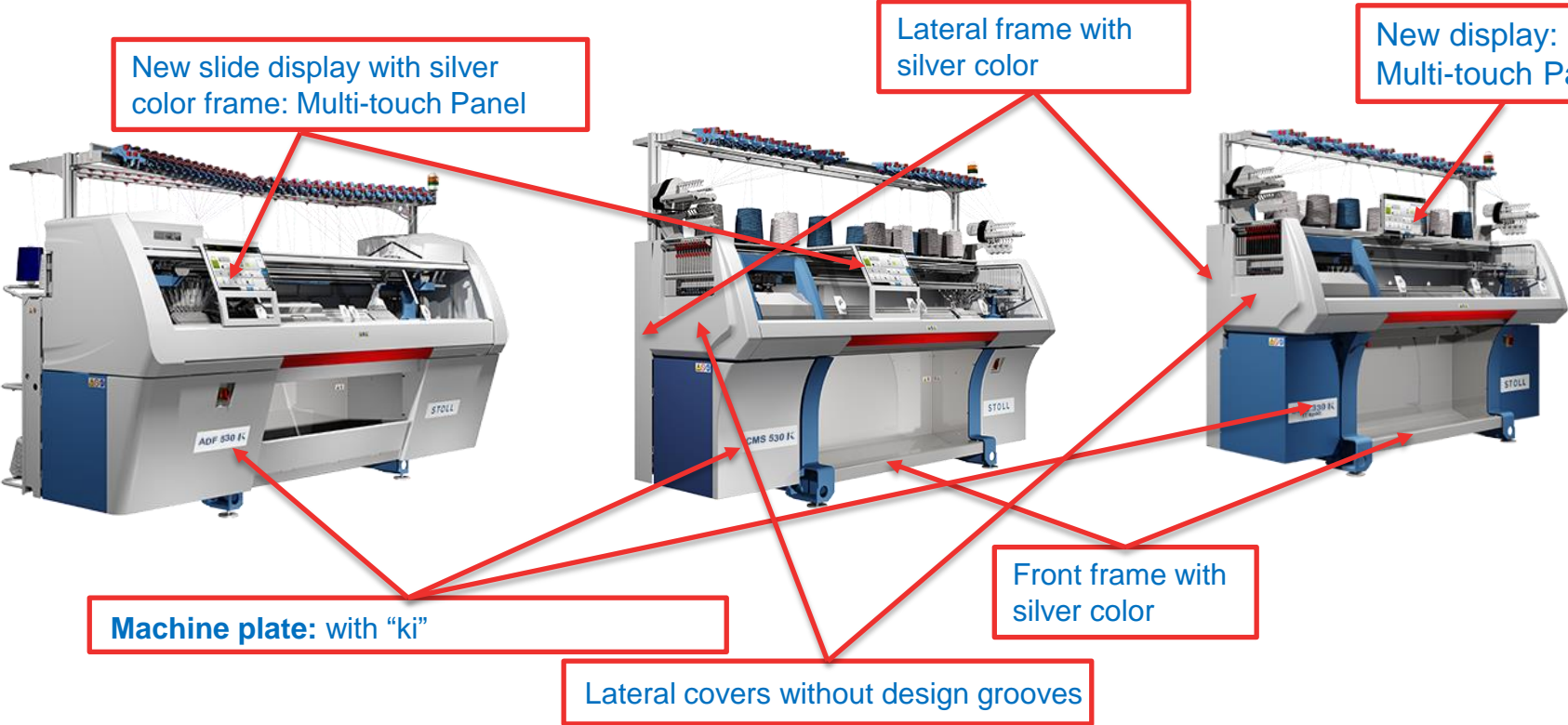
**Benefits:** Flexibility

Reliable investment

- **CMS 502 ki models** will be equipped with Stoll-multiflex® take-down instead of double roller.

**Optically: how to recognize a knitelligent machine?**

## Optical changes for a uniformed design



## Market launch strategy

- **May 2019:** CMS 530 ki models, CMS 520 ki C, all ADF models and CMS 830 ki
- **October 2019:** CMS 822 ki, CMS 933 ki, CMS 730 ki T, CMS 830 ki S, CMS 830 ki C
- **November 2019:** CMS 502 ki models, CMS 330 ki, CMS 303 ki, CMS 202 ki B

**THANK YOU FOR  
YOUR ATTENTION!**