

Data & Rhythm in Manufacturing

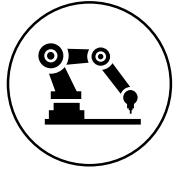
More efficient Production in 3 Month

Jan Blazek
Plantyst s.r.o.

Microsoft Awards
2017  **Winner**
Czech Republic



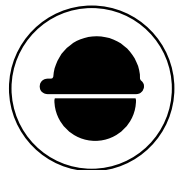
Light in the production



Ineffective production

Are the machines tuned to the right pace eventually cycle?

Is all the machine time used effectively?

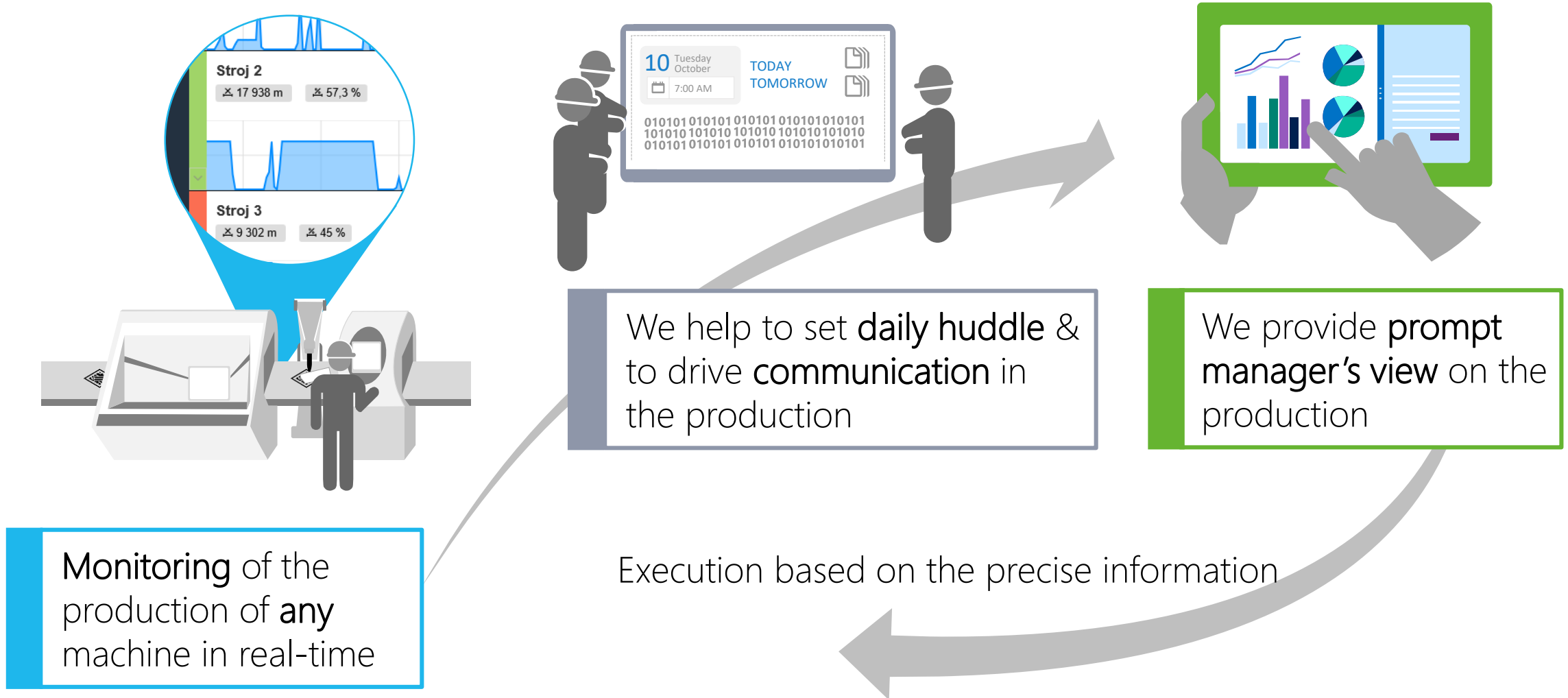


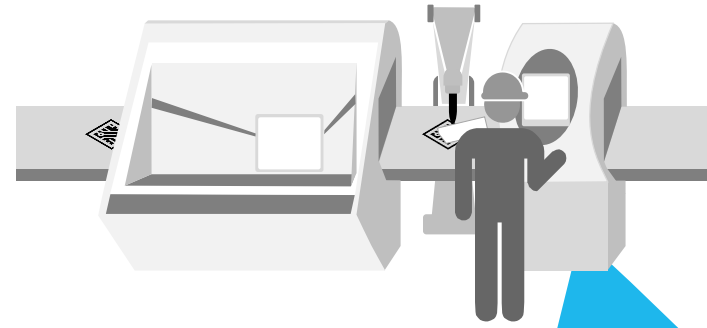
Low involvement of employees

Are they pro-active during solving the problem?

Do they have an overview about their contribution?

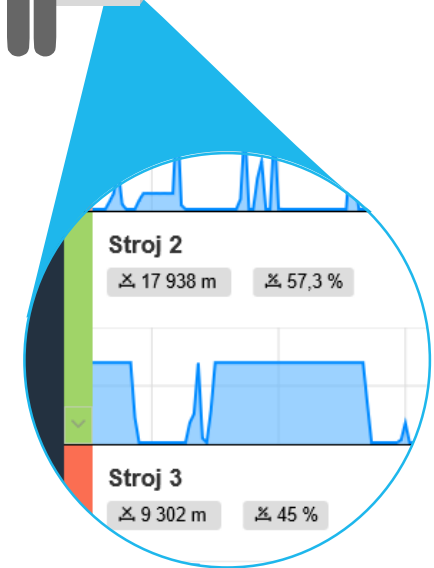
Coherent solution for continuous production improvement





Plantyst Monitoring

Automatic data collection in real time



Automatic Data Collection in Real Time

Less Papers, Less Stress, more Time



How many documents you fill in every day?

How much time you spent with it?

Do you believe the data in?

Monitoring in Real Time – Turn the Light on!



„Duo cum faciunt idem, non est idem“

Higher speed

possible quality issues and thus claim risk?

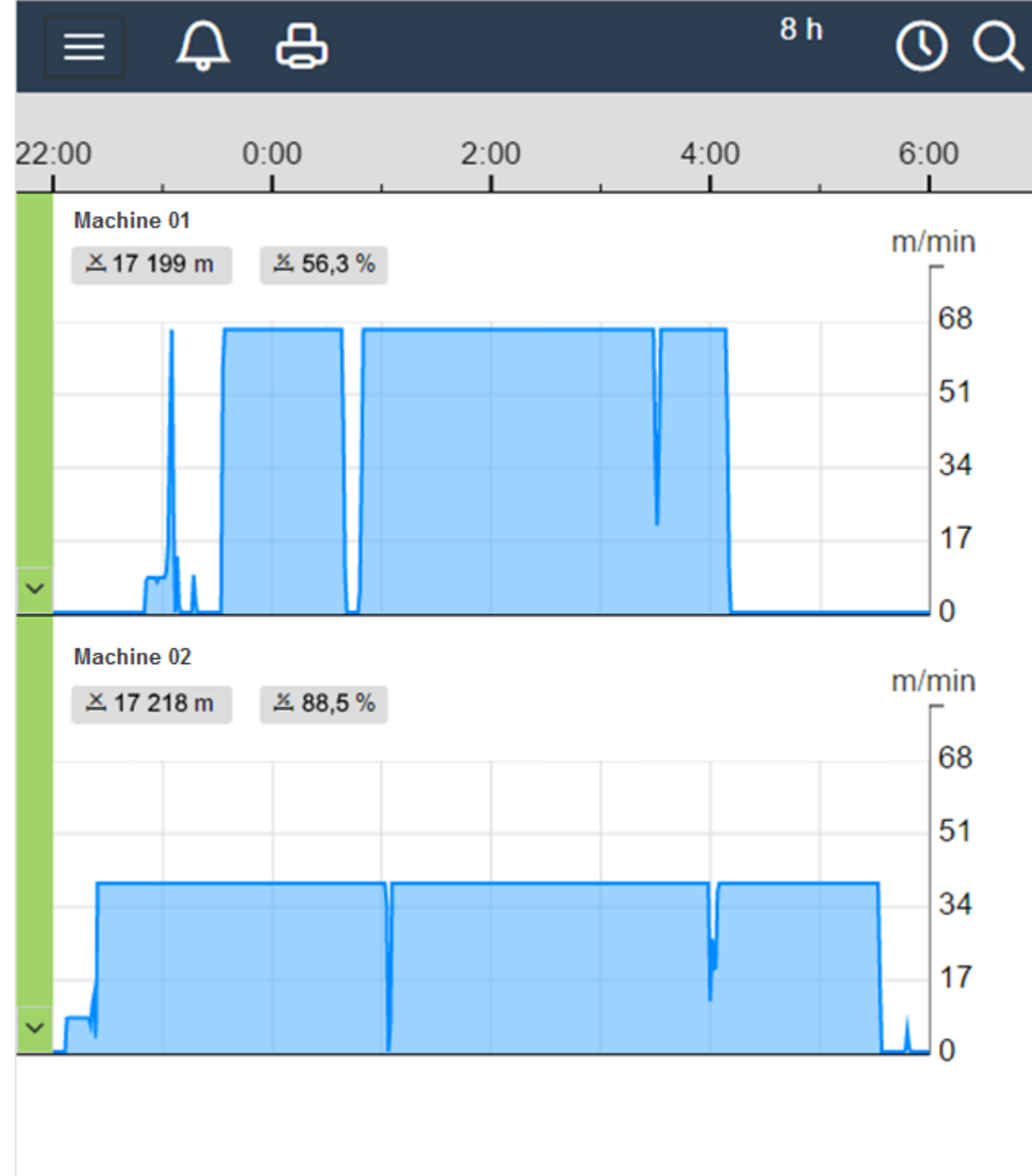
improper use of tools – wear of tools?

what about unused time?

Higher Uptime

possible speed loss?

is the operator skilled enough?



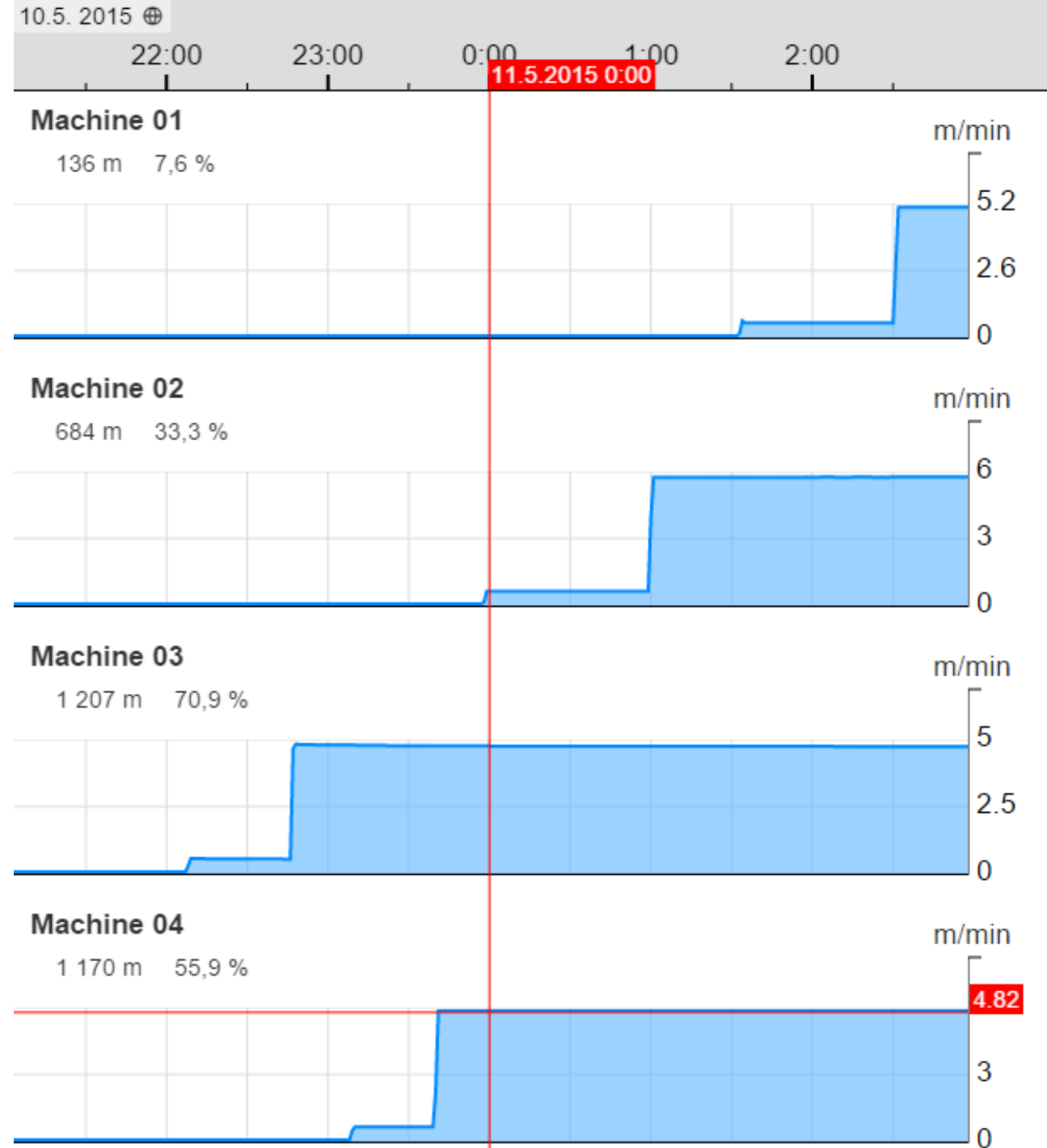
Start of Shifts

>3 hours of delay on Machine 1

Really ?? Why ?? Is there any technical limit?
Lack of staff?



On Two Extrusion lines - Increase of production
Uptime from 50 % to 97 %.



Communication

Known problem -> solved problem

Pin comments to data

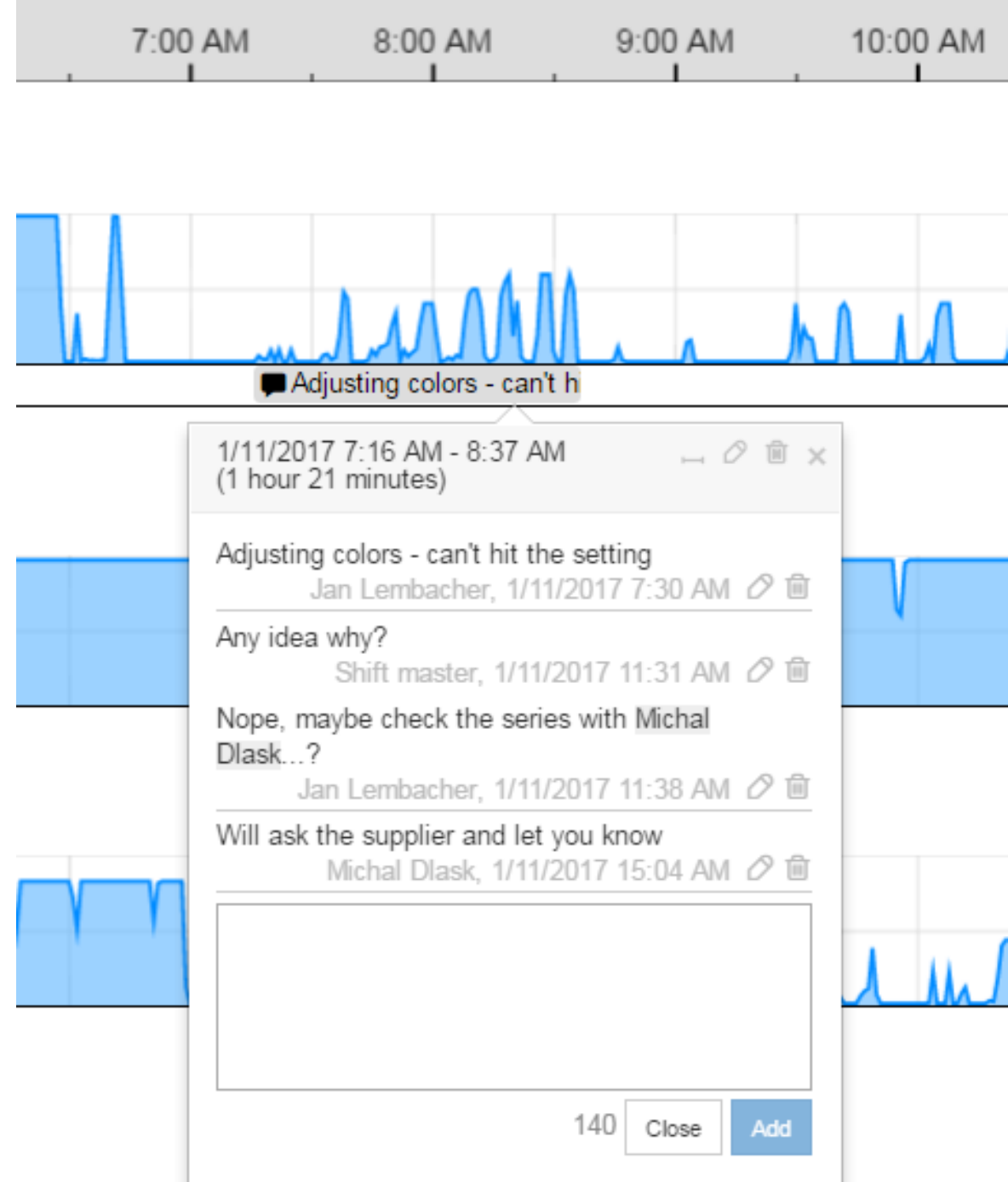
- share your experience
- ask for help

Respond to others

- automatic email notifications

Basis for daily meetings

- print, communicate, improve

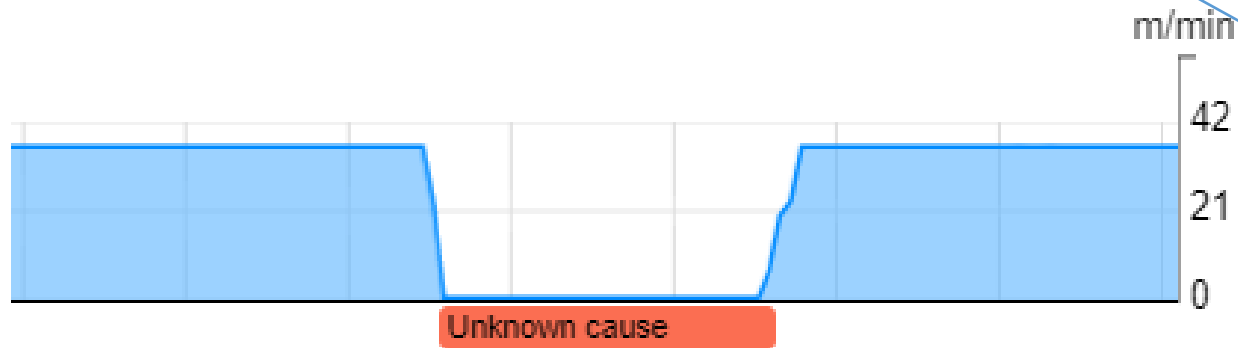


Downtime Analysis

Precise

Automatic

Possibility to add a context



8 hours 8 hours Search for devices

Unknown cause

7/21/2017 19:16 - unlimited

Downtime cause

E1: Job Change

E2: Defect on Machine

E3: Leaving - Setting of another Machine

E4: Job Change - Express Production

E5: Cleaning

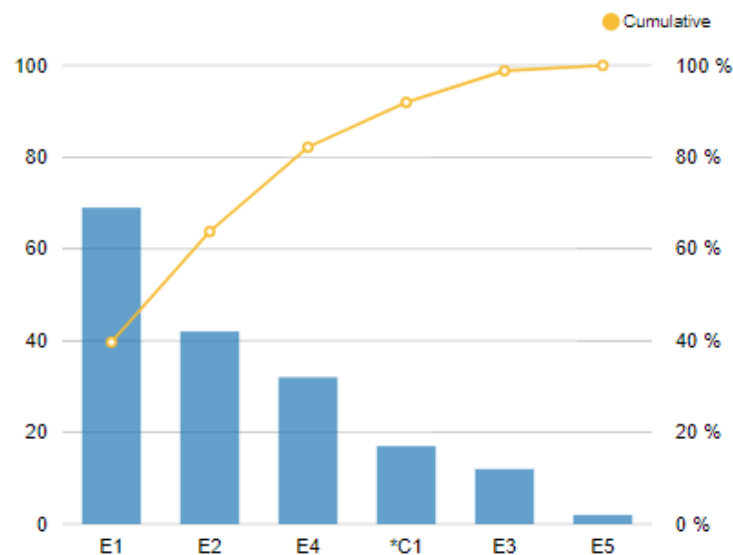
Comments

140 Add

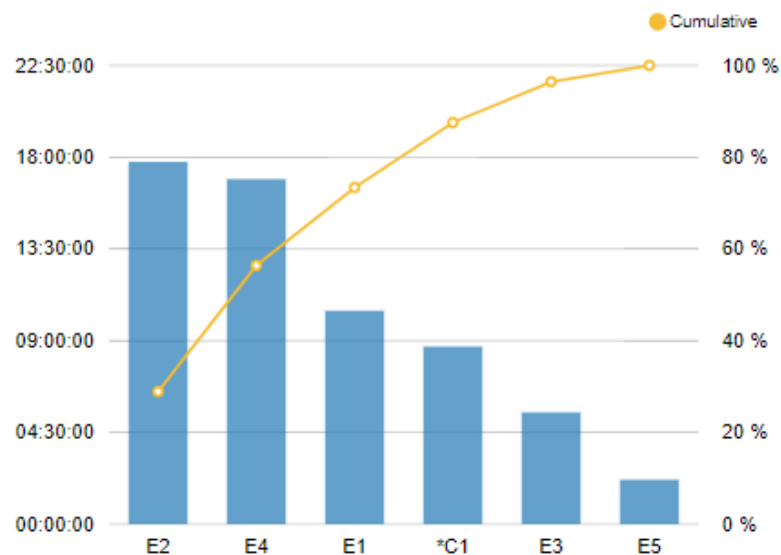
Downtime overview (6/1/2017 - 6/30/2017)

Bending Machine

Occurrences



Total time



Code	Description	Occurrences	Total time
E2	Defect on Machine	42 (24.1% of total)	17:46:30 (28.9% of total)
E1	Job Change	69 (39.7% of total)	10:28:00 (17% of total)
E4	Job Change - Express Production	32 (18.4% of total)	16:55:30 (27.5% of total)
E3	Leaving - Setting of another Machine	12 (6.9% of total)	05:28:50 (8.9% of total)
*C1	Unknow Cause	17 (9.8% of total)	08:42:30 (14.2% of total)
E5	Cleaning	2 (1.1% of total)	02:10:50 (3.5% of total)
Total		174	2d 13:32:10

Jobs everywhere

Add and see even more data

Visualize expectations

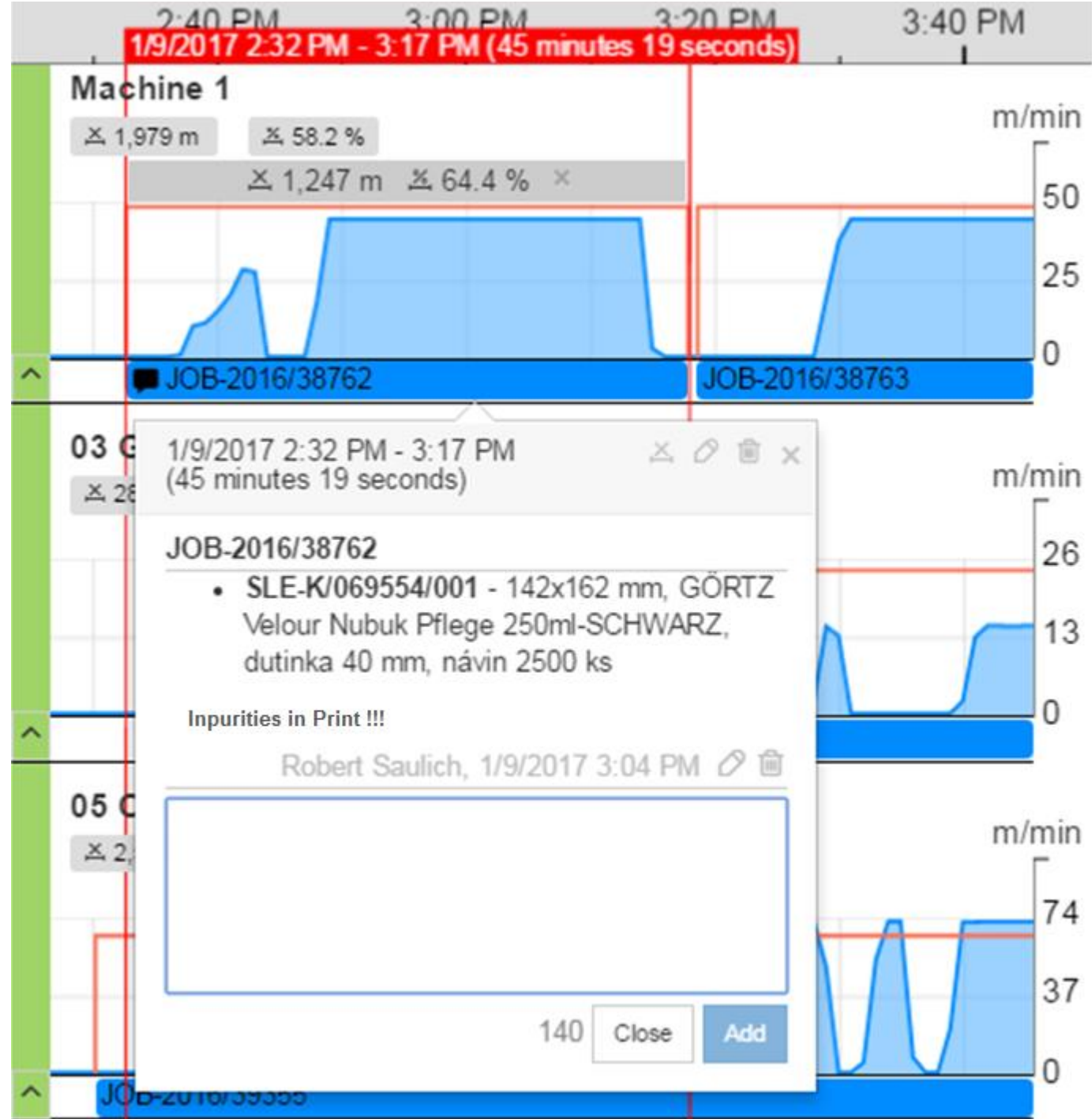
- start, end, speed

Compare with reality

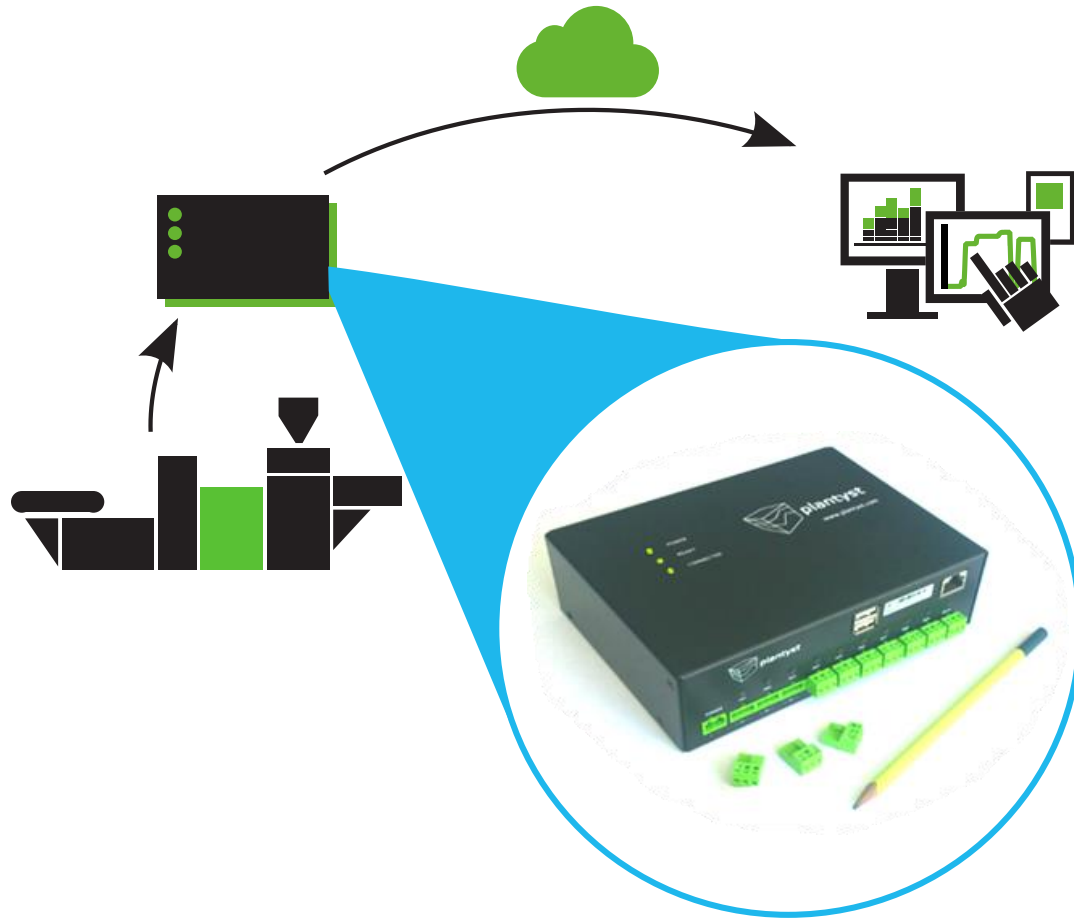
Integrate with other systems

- gather data together

Analyze history



Monitoring in Real Time (Data)



For any type of Machines

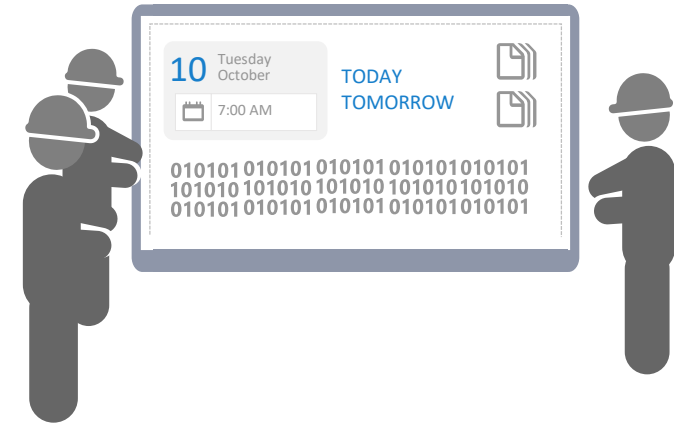
Plantyst Design of HW & SW

Plug & Play installation

For unlimited number of Machines
and users

ZENTIVA
A SANOFI COMPANY

Plantyst monitoring enabled in
53 minutes.

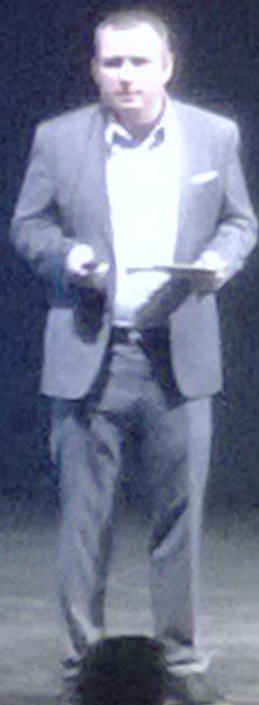


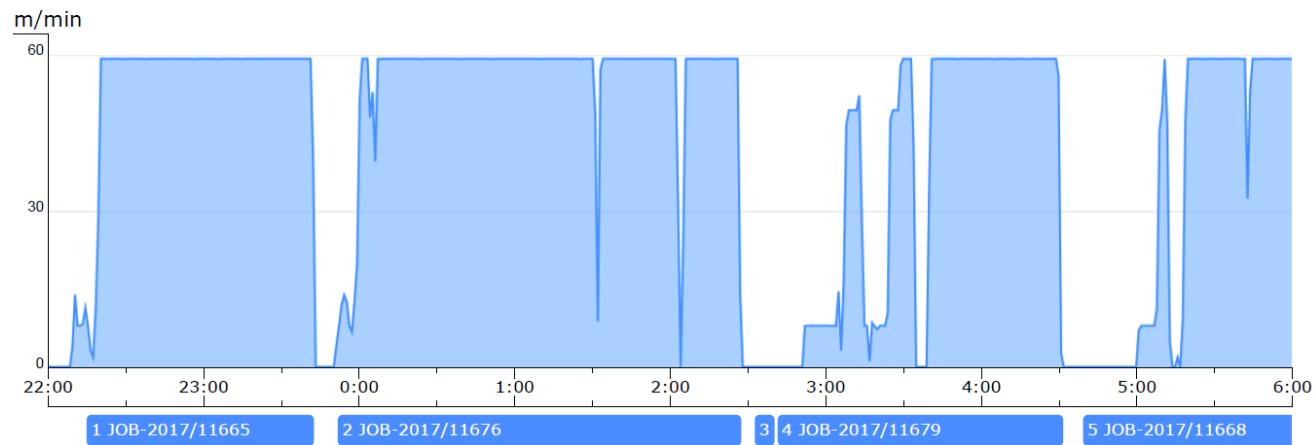
Communication & Rhythm

Based on trustful Data

INDUSTRIE 4.0 x INFORMATION 4.0

70% of factory data is not used.





Production

19937.7 m

Uptime

71.5 %

1 4/17/2017 10:14:39 PM-11:42:35 PM
JOB-2017/11665

- **SLE-K/069962/001** - atyp 46,54x43,45 mm, 20021035 LAB,CDL,100,TAB,FRONT,7DESIGNS, dutinka 76 mm, návín 10000 ks

2 4/17/2017 11:51:39 PM-4/18/2017 2:27:07 AM
JOB-2017/11676

- **SLE-K/069963/001** - atyp 51x52 mm, 2002103 LAB,CDL,300,TAB,FRONT,7DESIGNS, dutinka 76 mm, návín 10000 ks

4 4/18/2017 2:40:52 AM-4:31:16 AM
JOB-2017/11679

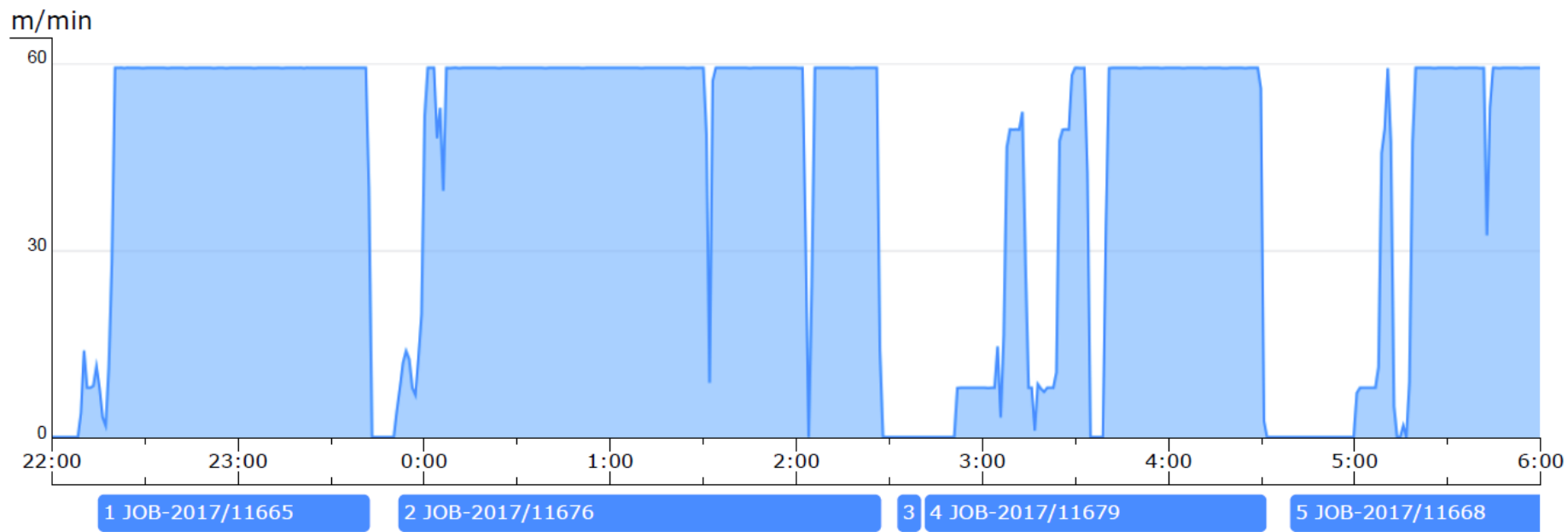
- **SLE-K/053120/001** - atyp 41,54x40,45 mm, 20017431 Canderel Red - 100 Tablets - Front, dutinka 76 mm, návín 10000 ks

5 4/18/2017 4:38:33 AM-6:48:59 AM
JOB-2017/11668

- **SLE-K/053434/001** - atyp 41,54x40,45 mm, 20016296, přední, verze 07/2014, 2xbílá, LABEL-Sucralose-Stevia 100 et 80, dutinka 76 mm, návín 10000 ks

Print the results
Talk to People !





Production

19937.7 m

Uptime

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JOB-2017/11665

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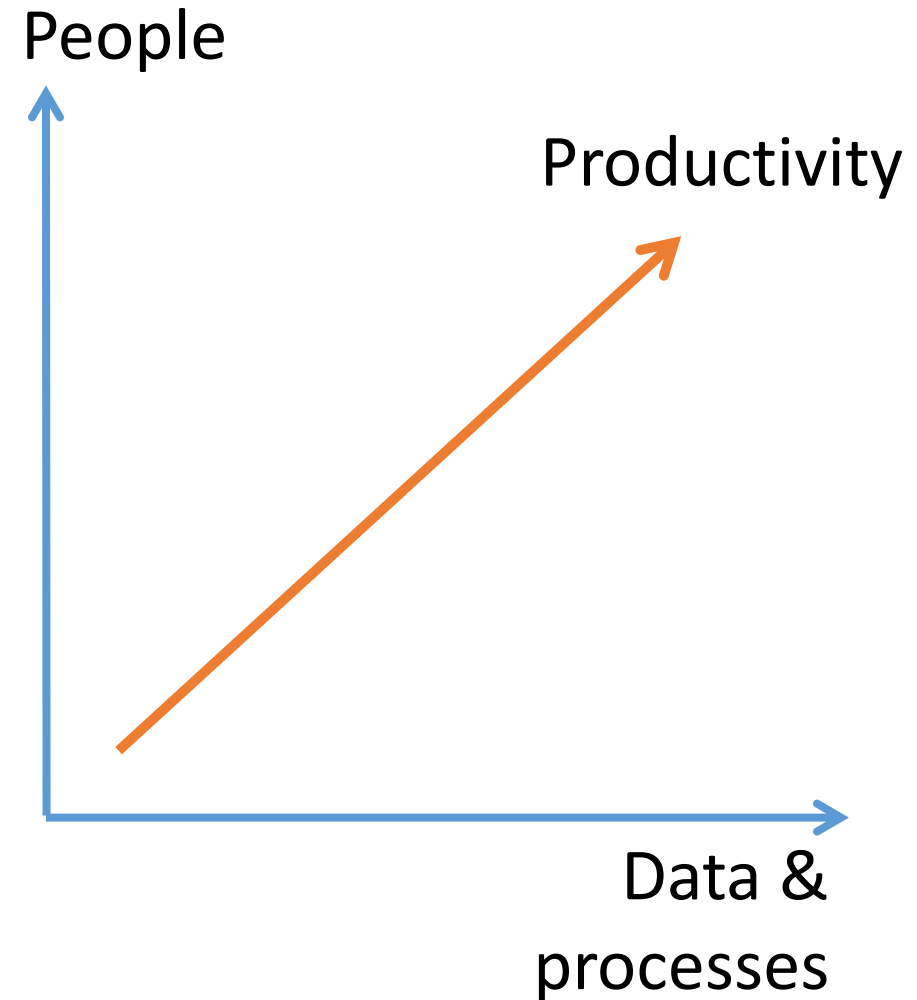
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Engage People – because All is about people!

We teach you:

- How to read and understand the Data
- How to use the Data in daily Communication



Positive feedback

	Cil %/m	Po 30.1.2017	Ut	St 1.2.2017	Ct	Pa
00	37% / 25%	30,1% / 19472	40,3% / 25614	48,1% / 57129		
00	34% / 23%	42,2% / 28255	61% / 52388	51,8% / 46405		
	17% / 12%	36,7% / 9627	39,9% / 10667	48,1% / 13647 😊		
	25% / 17%	51,8% / 17700	55,5% / 8895	38,9% / 15476		
	33% / 22%	38,6% / 22211	52,8% / 22211	47,6% / 22211		



Plantyst Analytics

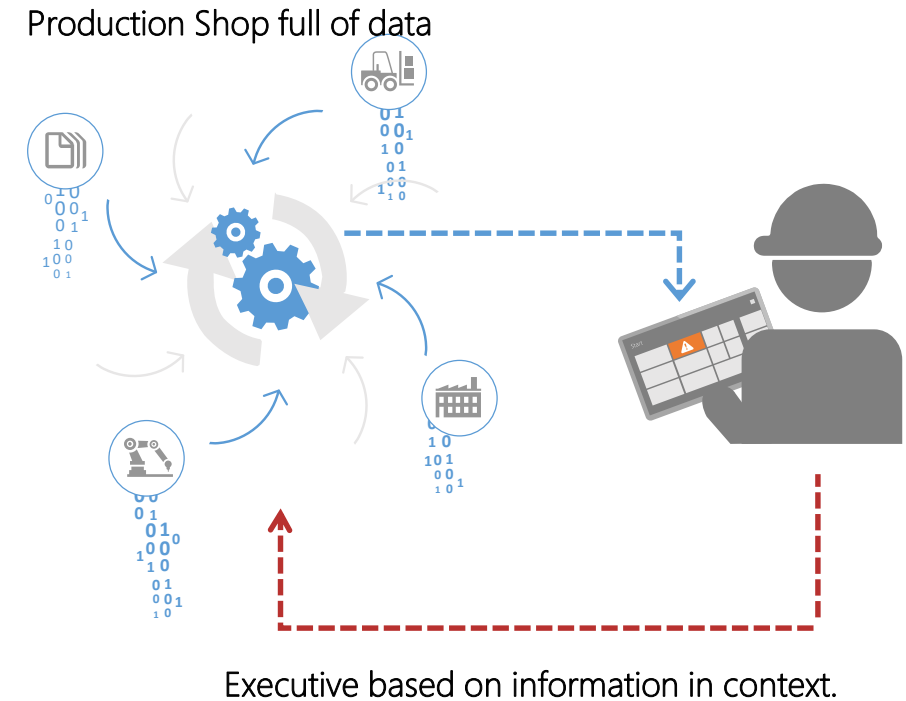
Prompt management view

Analytic tool in Production

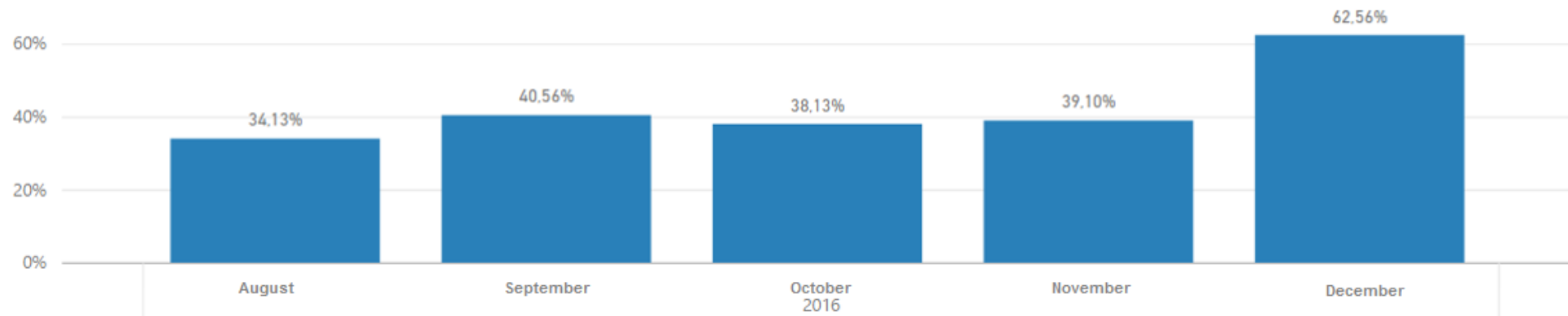
For fast and precise decisions.
Allow to see the **production in context**.

Allow to see and thus focus on the **most critical troubles**.

Makes the strategic **decisions easier**.



Uptime / Time

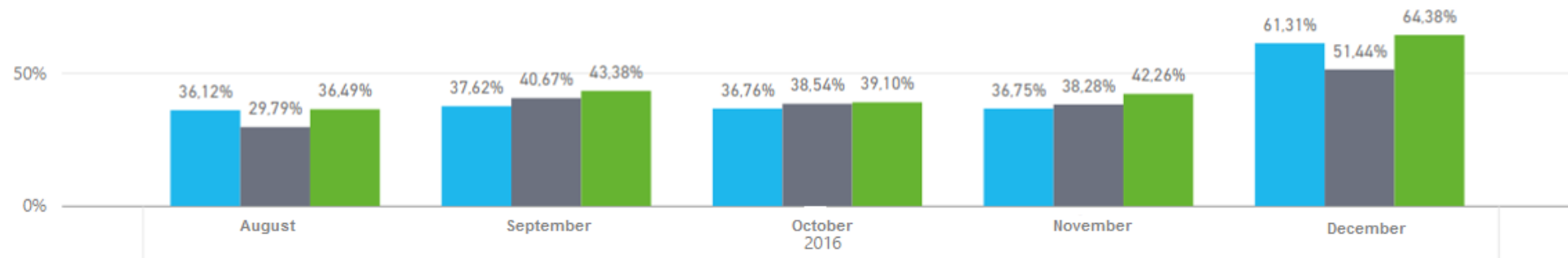


Total Uptime

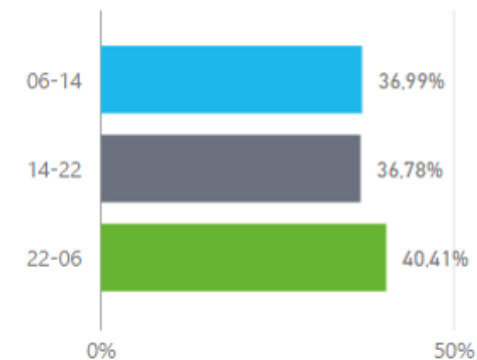
38,06%

Uptime per Shifts / Time

Shift ● 06-14 ● 14-22 ● 22-06

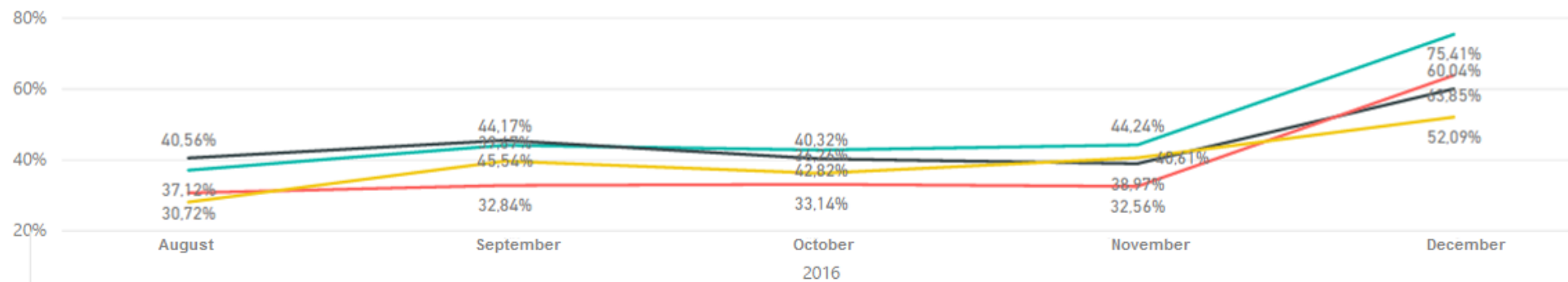


Total Uptime per Shifts

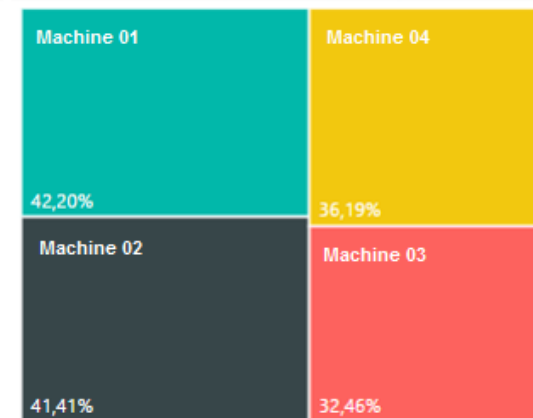


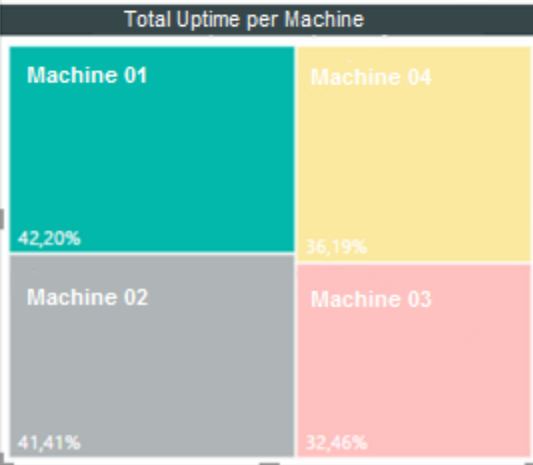
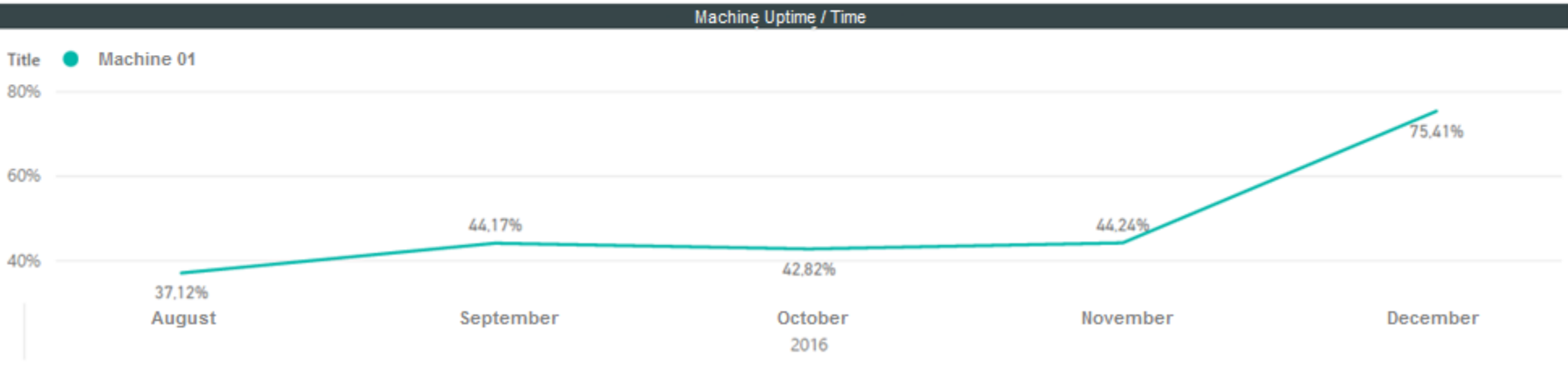
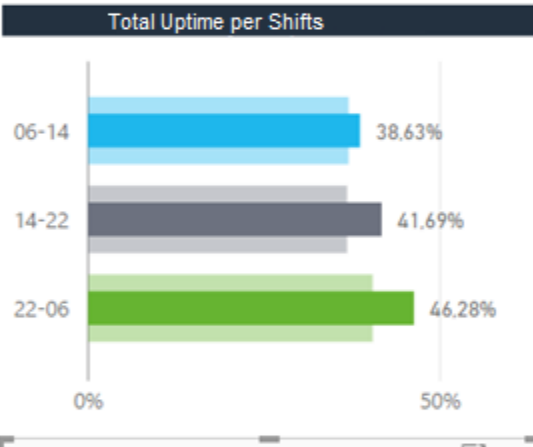
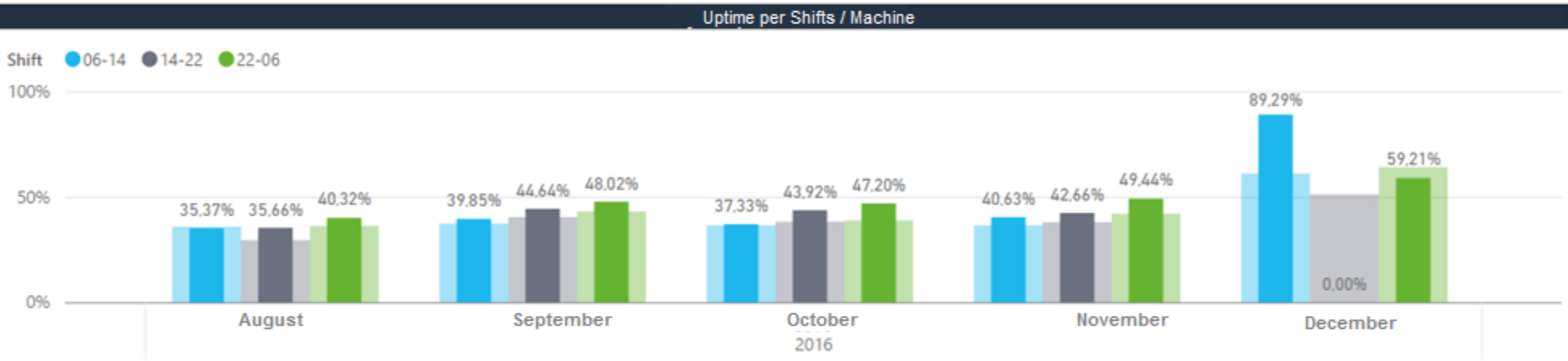
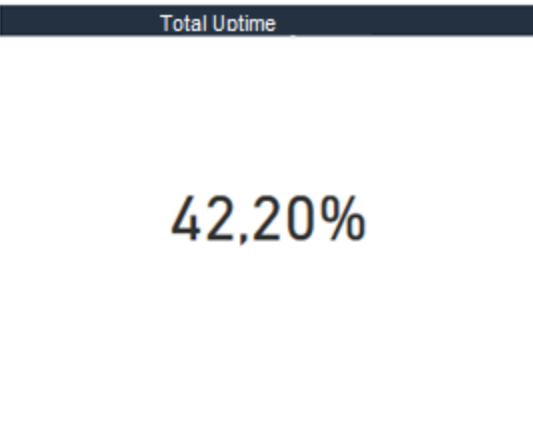
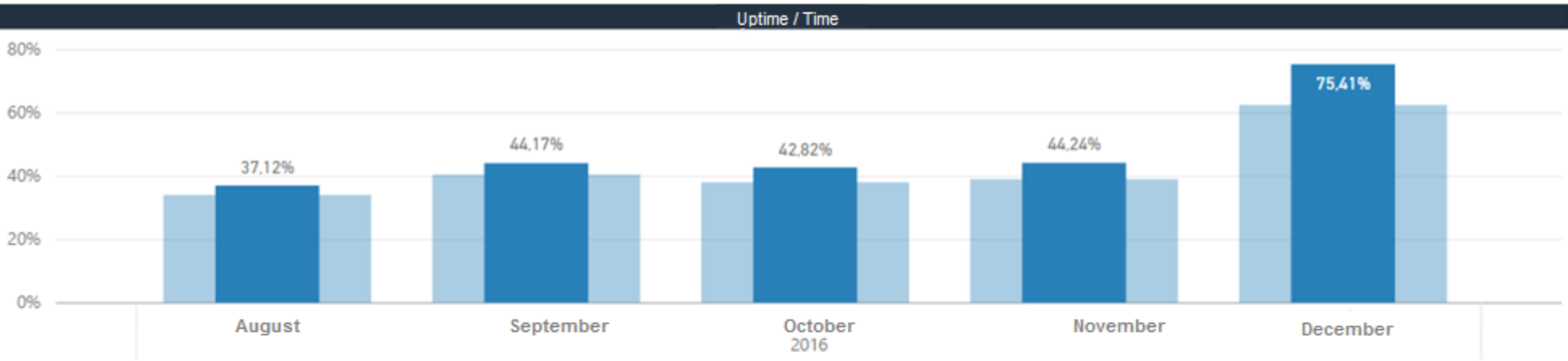
Machine Uptime / Time

Title ● M 01 ● M 02 ● M 03 ● M 04

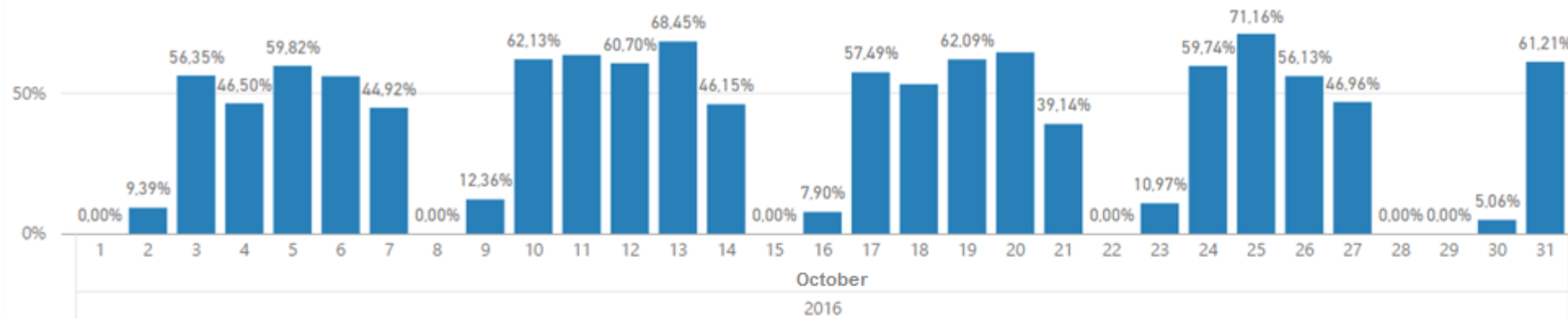


Total Uptime per Machine





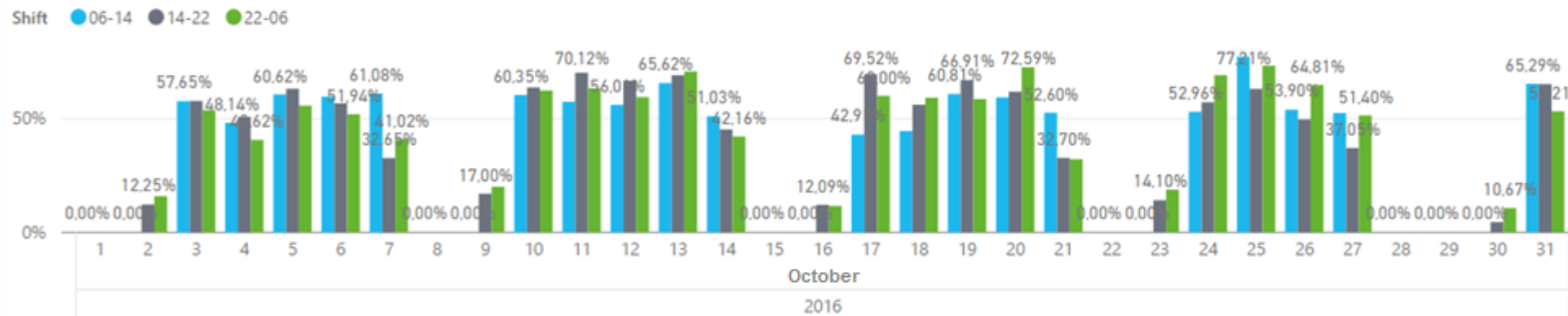
Uptime / Time



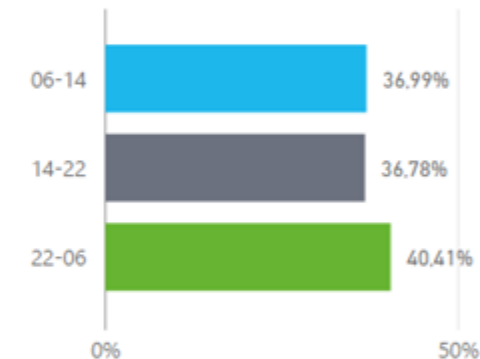
Total Uptime

38,06%

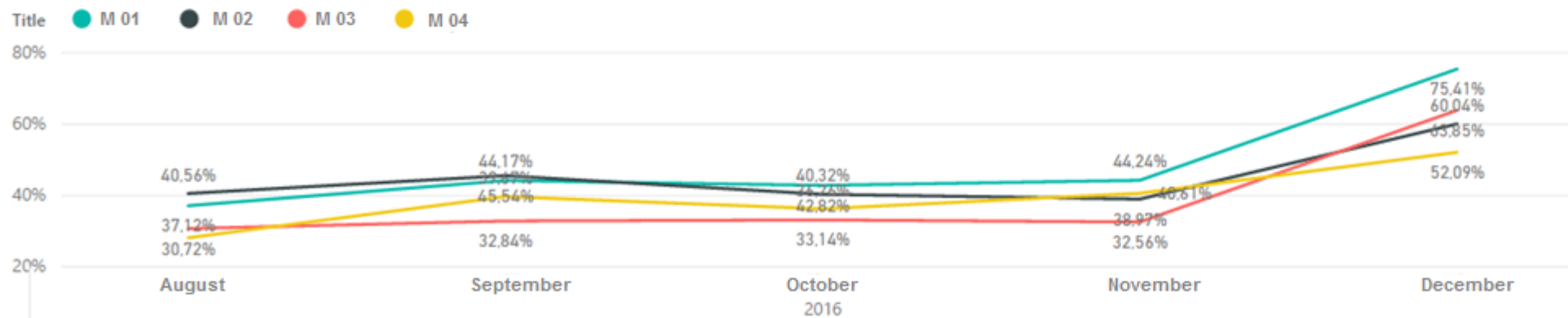
Uptime per Shift / Time



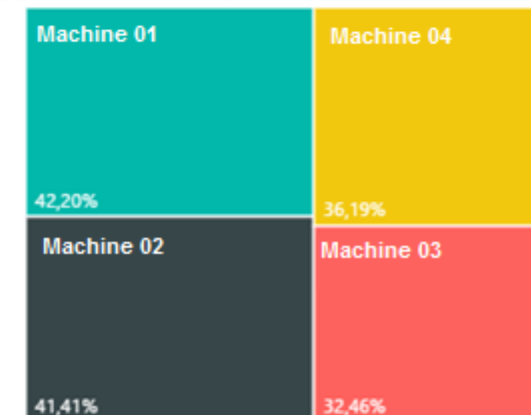
Total uptime per Shifts



Machine Uptime / Time



Total uptime per Machine



References

THERMACUT
THE CUTTING COMPANY

 **KOPOS**

HELLMA
ta pravá porce v dokonalé formě...

TRUMPF



KERN-LIEBERS
FIRMENGRUPPE

FRÄNKISCHE

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Nyomdaipari Szolgáltató Kft.

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 **Lindab**[®]



“We saved 700k CZK after the installation of Plantyst because we were able to fulfil the order on our own thanks to the production improvement. No out-sourcing were needed!”

*Robert Domnosil
executive head Boom Tisk, spol. s r.o.*



“Interface provided by Plantyst is very friendly, comprehensible and gives quick and easy-to-read information to our complete production team.”

*Stanislav Vrtiška
Pharmaceutical Production Director
Zentiva Group, a.s*



“Daily meeting in the production is one of the greatest things that we ever implemented. Our people improved production that still grows.”

*Jaroslav Vendl
executive director Columbia
press, a.s.*