

*Connectivité et information,  
La clé du succès pour atteindre  
la performance*

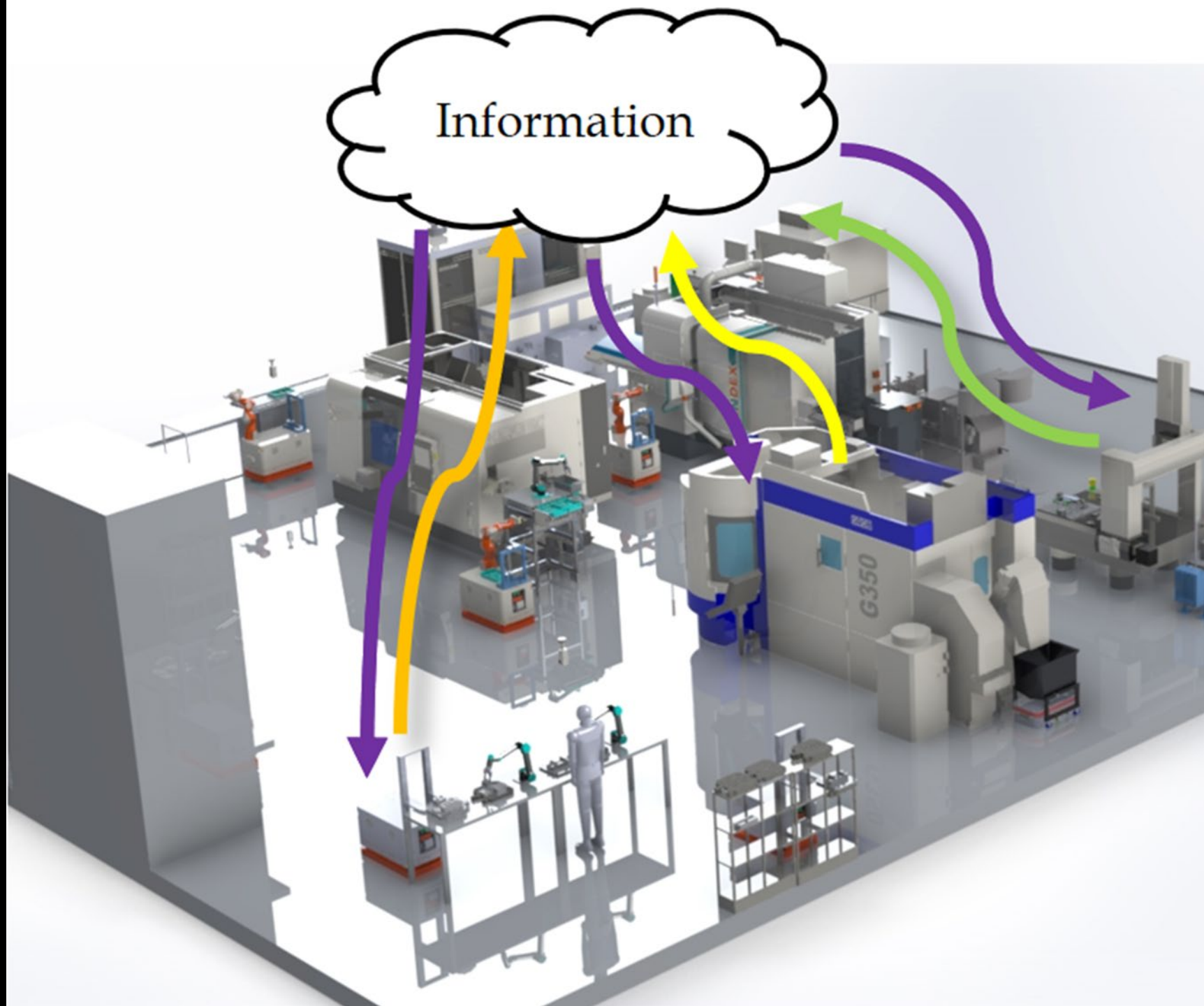
Par Yves Proteau







Information









APN

2889

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# Production Management & Automation System

## Machinery

### 5-Axis Milling (SIEMENS 840D)

- Alarms
- BLUM Laser Tool Measurements
- Probed Measurements
- Tool Offsets (set & get)
- Tool Life Management
- WPC Coordinates (set & get)
- Machining Times & Part Counts

### Turning (FANUC 18i-TB & 30i-A)

- Alarms
- Tool Offsets (set & get)
- WPC Coordinates (set & get)
- Tool Load Values
- Tool Offsets
- Tool Life Management

### Grinding (COMBITEC ACS400 & FANUC 31i-A)

- Alarms
- Tool Offsets (get)
- Probe Measurements
- Program Start/Stop/Change

### CMM (ZEISS & MITUTOYO)

- Measurement Reports

## Users

### Machinist

- Enter Measurements
- Complete Tasks
- Monitor Process Variables & Machine
- See Associations for Available Data
- Get Information from Previous Projects
- Process Control Allows for Increase in Stability & Decrease in Required Inspection
- Receive Targeted Notifications
- Add process information

### Programmer

- Define Projects, Characteristics, Programs, Tools, & Entity Associations
- Lookup Database of Old Projects for Tools, Speeds & Feeds for Specific Features and Materials

### Quality

- Monitor Incoming CMM Load and Current Jobs
- View, Handle, and Search Non-Conformities and Counter-Validations
- Generate Process Reports

### Floor Supervisor

- Alerted of Higher Importance Events
- Easily Monitor All Running Jobs and Machines
- Predictive Process Statuses
- Quickly Diagnose Problems
- Correctly Assign Jobs Based on Risk

## Server

### SQL Database

- Store & Dispense Information
- Sampling Logic & Data Statistics

### Server Application

- Live Data Importation
- Machine Communication
- Update Broadcasting

## Client Application

- Creates/Displays Messages
- Control of Inspection Frequency
- Event Input and Relay
- Information Lookup
- Project Definition
- Output Filled Inspection Sheets
- Live Monitoring of Job Risk

## Existing Software

### PowerMill

- Tools
- Toolpaths
- Tool/Toolpath to Characteristic Associations
- Toolpath to Feature Type Association

### FeatureCam

- Tools & Toolpaths

### SimCT

- Grinding Cycles

### JobBOSS

- Jobs
- Employees
- Tools
- Job Operations
- Materials
- Measuring Tools & Calibration

### UniPoint

- Non-Conformances

### InspectionXpert

- Characteristics







**OLD WAYS  
WON'T OPEN  
NEW  
DOORS**







PART NO.

Sort by:

Filter:

2 EB	<p><b>MINOR Overridden</b></p> <p>Desc.: BREAK ALL SHARP CORNERS R.010MAX U.O.S.</p> <p>Visuel Visuel</p>	<p>1 : 2 next: 44</p> <p>Break edges</p> <p>Ok</p>	<input type="text"/>		<p>Δ :</p>
14	<p><b>CRITICAL Overridden</b></p> <p>Desc.: Ø.503</p> <p>Bore gage Diamet</p>	<p>1 : 4 next: 44</p> <p>Diameter</p> <p>0.503 <sup>+ 0.001</sup></p> <p>Min : 20.01 % Max : 20.01 %</p>	<input type="text"/>		<p>Δ : -0.00050</p> <p>CPK</p> <p>Actual: 2.79 (11) ●</p> <p>Last ten: 3.66 (10) ●</p> <p>Last job: 1.69 (60) ●</p>
15 R	<p><b>MINOR Overridden</b></p> <p>Desc.: Fini 4 Ra MAX</p> <p>Insp. Cond.:Polir Pâte BLEU pour un Fini Uniform</p> <p>Visuel Visuel</p>	<p>1 : 2 next: 44</p> <p>Surface Finish</p> <p>Ok</p>	<input type="text"/>		<p>Δ :</p>
18 L	<p><b>MINOR Overridden</b></p> <p>Desc.: Land du Ø.479</p> <p>Insp. Cond.:High to High</p> <p>Bore gage Diamet</p>	<p>1 : 2 next: 44</p> <p>Length</p> <p>0.090 <sup>± 0.005</sup></p> <p>Min : 5.00 % Max : 5.00 %</p>	<input type="text"/>		<p>Δ : 0.00000</p> <p>CPK</p> <p>Actual: 3.70 (22) ●</p> <p>Last ten: 4.85 (10) ●</p> <p>Last job: 1.41 (116) ●</p>
20.2 r	<p><b>MINOR Overridden</b></p> <p>Desc.: R1/8 Visible à la loupe</p> <p>Insp. Cond.:Sinon Polir Pâte BLEU</p> <p>Visuel Visuel</p>	<p>1 : 2 next: 44</p> <p>Radius</p> <p>Ok</p>	<input type="text"/>		<p>Δ :</p>
24	<p><b>CRITICAL Overridden</b></p> <p>Desc.: Ø.479</p> <p>Bore gage Diamet</p>	<p>1 : 2 next: 44</p> <p>Diameter</p> <p>0.479 <sup>+ 0.001</sup></p> <p>Min : 20.01 % Max : 20.01 %</p>	<input type="text"/>		<p>Δ : -0.00050</p> <p>CPK</p> <p>Actual: 2.91 (22) ●</p> <p>Last ten: 4.30 (10) ●</p> <p>Last job: 1.55 (118) ●</p>

Additional Characteristics

MEASUREMENTS TO RECORD

Login

PART	TASK TYPE	STOPS PROF
48	CMM_Measurement CMM	<input type="checkbox"/>

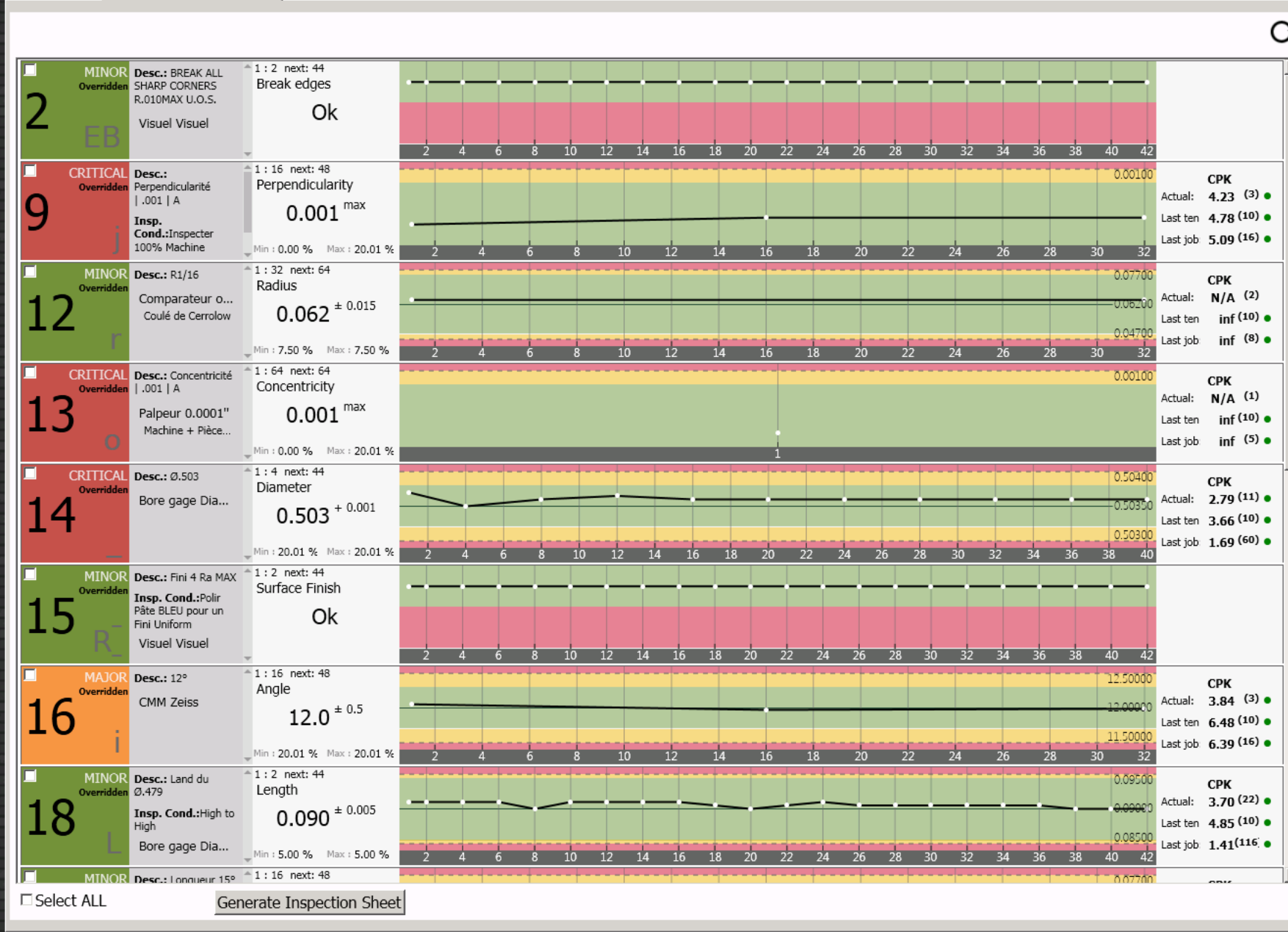
JOB 1041... RECIPE 78727  
 OP Combi-3-M1  
 PART PT31110 REV -

100

Die, Lower, initial Draw

Yves Proteau 44 / 230

JOB OPERATION OPEN



Login

PART	TASK TYPE	STOPS PROF
48	CMM_Measurement CMM	<input type="checkbox"/>

JOB 1041... RECIPE 78727  
 OP Combi-3-M1  
 PART PT31110 REV -

**100** Die, Lower, initial Draw  
 Yves Proteau 44 / 230  
 JOB OPERATION OPEN





**TOURNAK6** Capacity (for 7 days): 177 h Running Auto:%0

Filter by Usr.

	Tasks Status	Job Nb.	Seq.	Part Name	Rev	Usr.	Est. End.	Sched. End.	Qty.	% Qty.	Est. Setup	Act. Setup	Mach. Setup	In job. Setup	% Setup	Est. Run	Act. Run	% Run	% Perf	Current WC	Attd.	Eff.	Open NCs	NCs
1		109763	1	EA00-7022-0200	D	<input type="checkbox"/>	22/09/2017 06:43	21/08/2017	342 / 450	%76	8	41.6	26.2	15.4	%19	75	69.5	%93	%82	TOURNAK6	100	100	18	0
2		108624	5	RV00-0194-0700	E	<input type="checkbox"/>	24/09/2017 08:23	02/08/2017	0 / 200	%0	4	0.0	0.0	0.0	%0	16.67	0	%0	%0	TOURNAK6	100	100	0	0
3		108625	2	RV00-0194-0700	E	<input type="checkbox"/>	25/09/2017 14:03	29/08/2017	0 / 200	%0	0	0.0	0.0	0.0	%0	16.67	0	%0	%0	2WAIT	100	100	0	0
4		108626	2	RV00-0194-0700	E	<input type="checkbox"/>	26/09/2017 06:44	11/09/2017	0 / 200	%0	0	0.0	0.0	0.0	%0	16.67	0	%0	%0	2WAIT	100	100	0	0
5		109497	1	FCH-S200-0B0	A	<input type="checkbox"/>	27/09/2017 02:44	25/08/2017	0 / 100	%0	5	0.0	0.0	0.0	%0	15	0	%0	%0	TOURNAK6	50	100	0	0
6		103323	1	MG60-0400-0700	F	<input type="checkbox"/>	01/10/2017 14:39	23/08/2017	0 / 350	%0	6	0.0	0.0	0.0	%0	72.92	0	%0	%0	TOURNAK6	65	70	0	0
7		103530	1	MG60-0400-0700	F	<input type="checkbox"/>	05/10/2017 04:34	04/10/2017	0 / 350	%0	0	0.0	0.0	0.0	%0	72.92	0	%0	%0	DECOUPE	65	70	0	0
8		103324	1	MGX0-0400-0700	C	<input type="checkbox"/>	14/10/2017 11:34	13/10/2017	0 / 800	%0	8	0.0	0.0	0.0	%0	120	0	%0	%0	DECOUPE	65	100	0	0
9		104071	1	EL60-0200-0200	E	<input type="checkbox"/>	16/10/2017 18:11	11/09/2017	0 / 300	%0	6	0.0	0.0	0.0	%0	23.61	0	%0	%0	DECOUPE	50	90	0	0
10		104070	1	EL60-0200-0200	E	<input type="checkbox"/>	17/10/2017 17:47	11/09/2017	0 / 300	%0	0	0.0	0.0	0.0	%0	23.61	0	%0	%0	DECOUPE	50	90	0	0
11		104203	1	ELX0-0200-0200	C	<input type="checkbox"/> Mqs	20/10/2017 03:47	05/10/2017	0 / 600	%0	6	0.0	0.0	0.0	%0	52	0	%0	%0	DECOUPE	65	85	0	0
12		109500	1	FEH-F2S2-MB0	A	<input type="checkbox"/>	25/10/2017 07:06	27/09/2017	0 / 300	%0	12	0.0	0.0	0.0	%0	69.31	0	%0	%0	DECOUPE	50	101	0	0
13		109504	2	FEM-F4S2-MD0	A	<input type="checkbox"/>	26/10/2017 07:10	03/10/2017	0 / 50	%0	8	0.0	0.0	0.0	%0	16.07	0	%0	%0	2WAIT	100	70	0	0
14		107233	1	FEM-F4L2-MB0	A	<input type="checkbox"/>	31/10/2017 22:38	28/09/2017	0 / 500	%0	8	0.0	0.0	0.0	%0	85.46	0	%0	%0	DECOUPE	50	90	0	0
15		107234	1	FEM-F4L2-MB0	A	<input type="checkbox"/>	05/11/2017 17:05	18/10/2017	0 / 500	%0	0	0.0	0.0	0.0	%0	85.46	0	%0	%0	DECOUPE	50	90	0	0
16		102128	1	FEH-F4L4-0B0	A	<input type="checkbox"/>	07/11/2017 20:25	05/10/2017	0 / 200	%0	5	0.0	0.0	0.0	%0	33.33	0	%0	%0	TOURNAK6	50	100	0	0
17		104859	1	FAD-RAS2-MB0	00	<input type="checkbox"/>	11/11/2017 14:05	16/10/2017	0 / 500	%0	6	0.0	0.0	0.0	%0	66.67	0	%0	%0	DECOUPE	50	100	0	0
18		104204	1	ELX0-0200-0200	C	<input type="checkbox"/>	15/11/2017 01:05	19/10/2017	0 / 600	%0	6	0.0	0.0	0.0	%0	52	0	%0	%0	DECOUPE	65	85	0	0
19		109764	1	EA00-7022-0200	D	<input type="checkbox"/>	18/11/2017 12:45	20/11/2017	0 / 400	%0	0	0.0	0.0	0.0	%0	66.67	0	%0	%0	DECOUPE	100	100	0	0
20		102134	1	FUH-S2S2-MB0	A	<input type="checkbox"/>	21/11/2017 12:50	23/10/2017	0 / 300	%0	5	0.0	0.0	0.0	%0	42.08	0	%0	%0	TOURNAK6	50	101	0	0

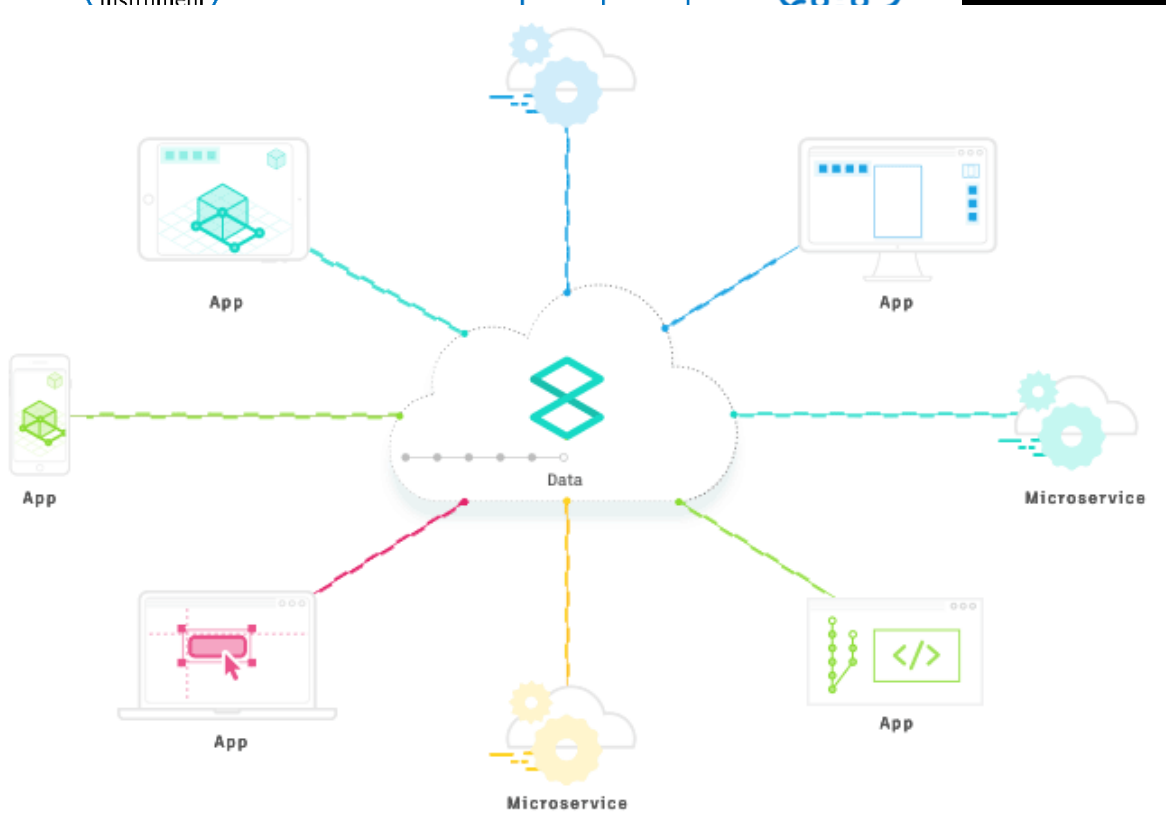
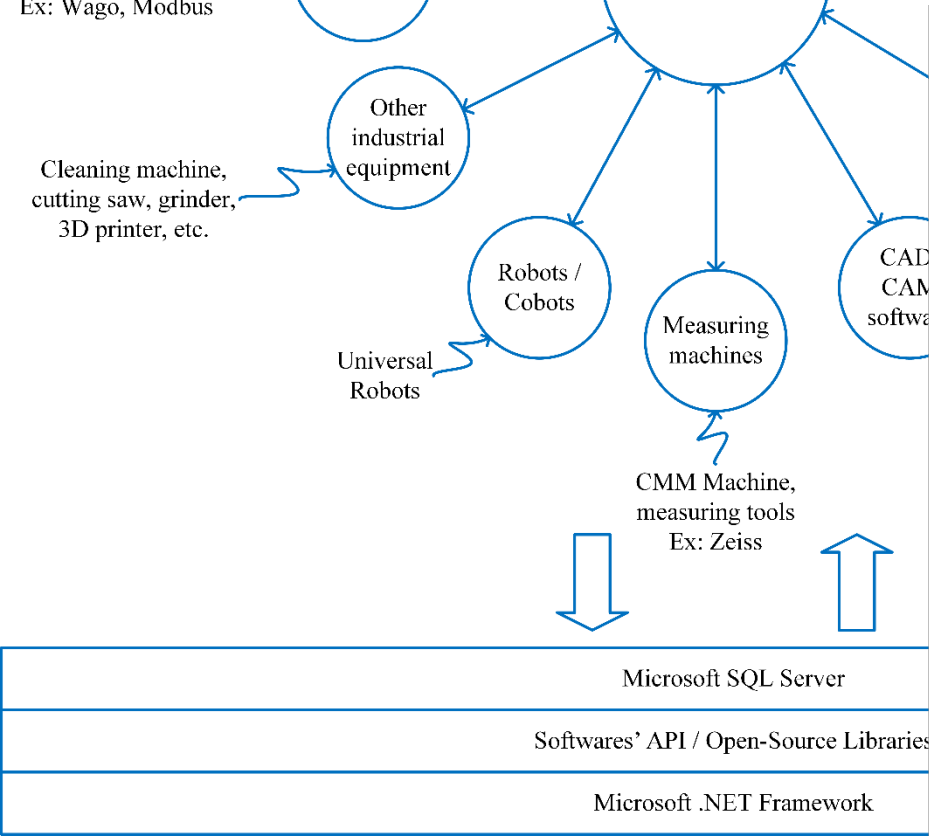
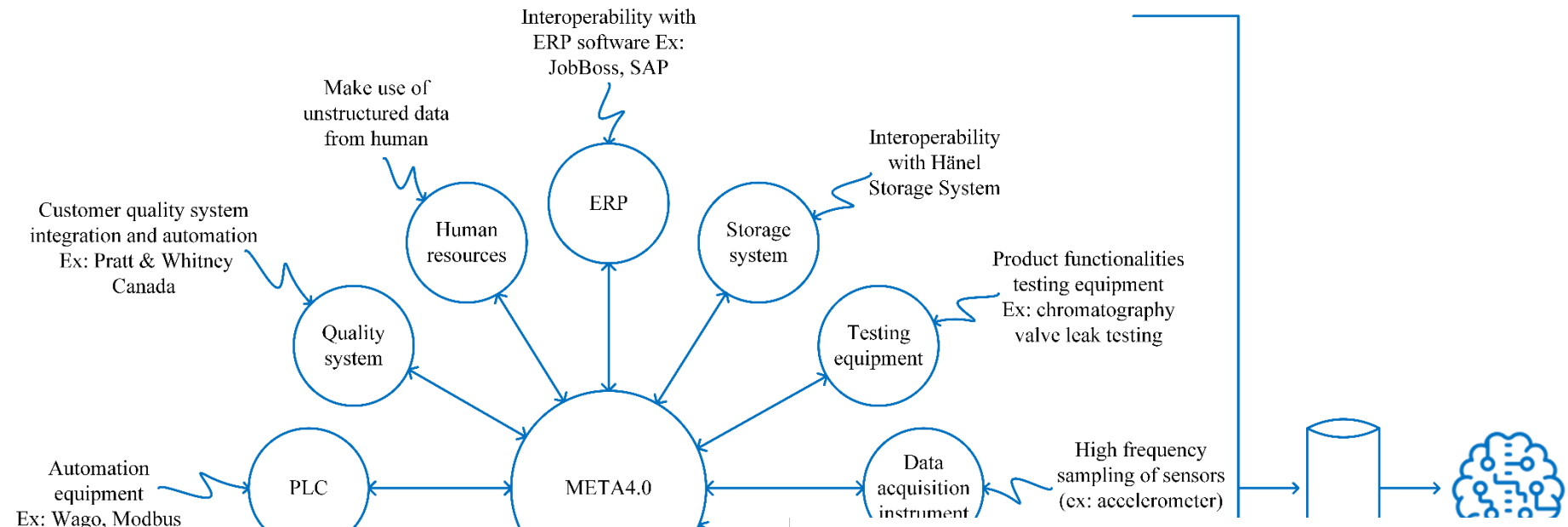
Drop here to add at the end of the list.

Total Setup (hrs): 93 Run (hrs): 1022.12 Remaining Run (hrs): 952.62

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  |

Unprioritized Schedules

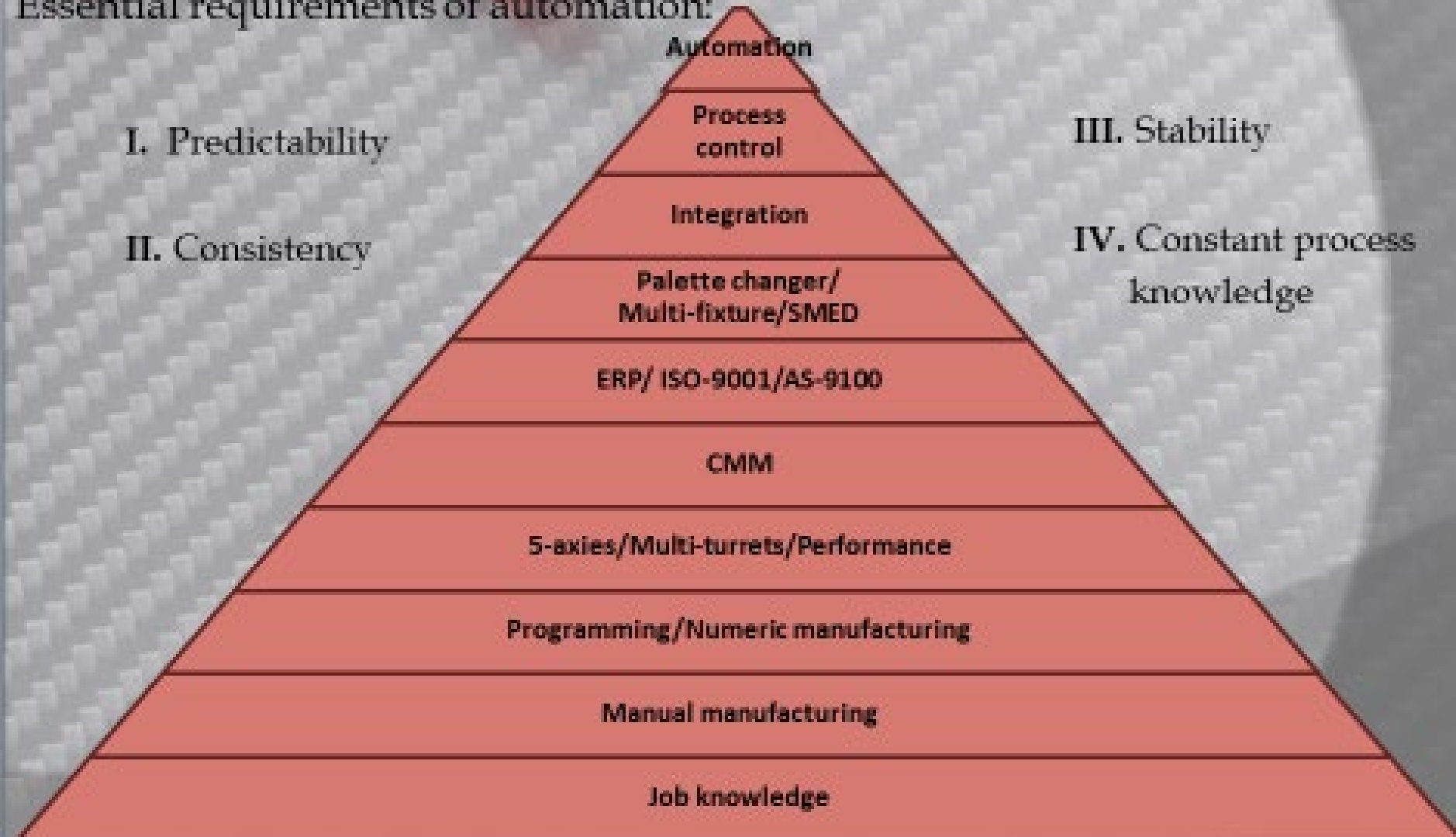




# Investing in Automation



Essential requirements of automation:



Tasks

All Charlie Ada Alan Grace Sort Filter by

To-do 4

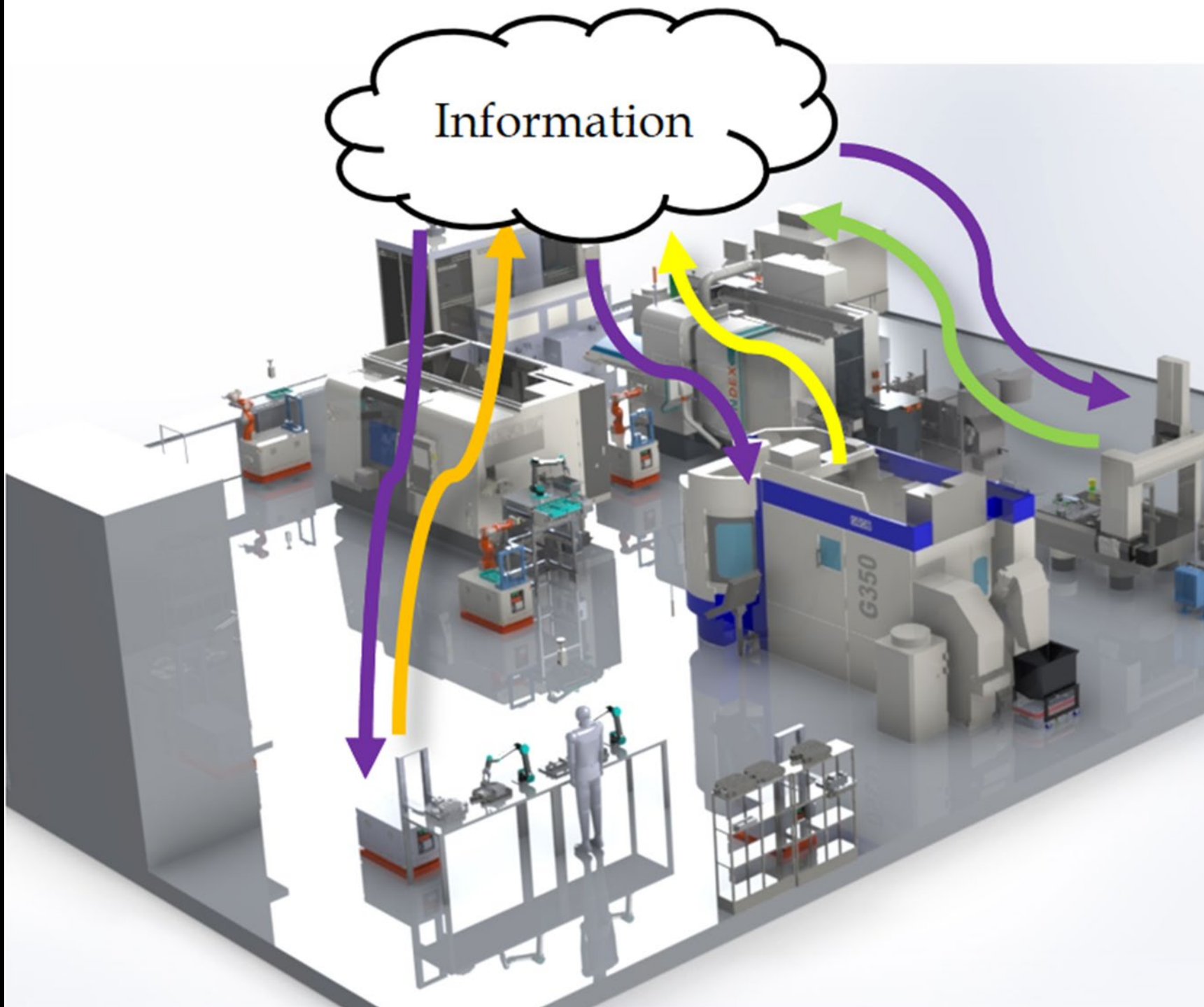
- Cook dinner  
6:30pm Yesterday 30pts
- Sort laundry  
Today 7/7pts
- Walk the dog  
5:00pm Today 15pts
- Homework  
20pts

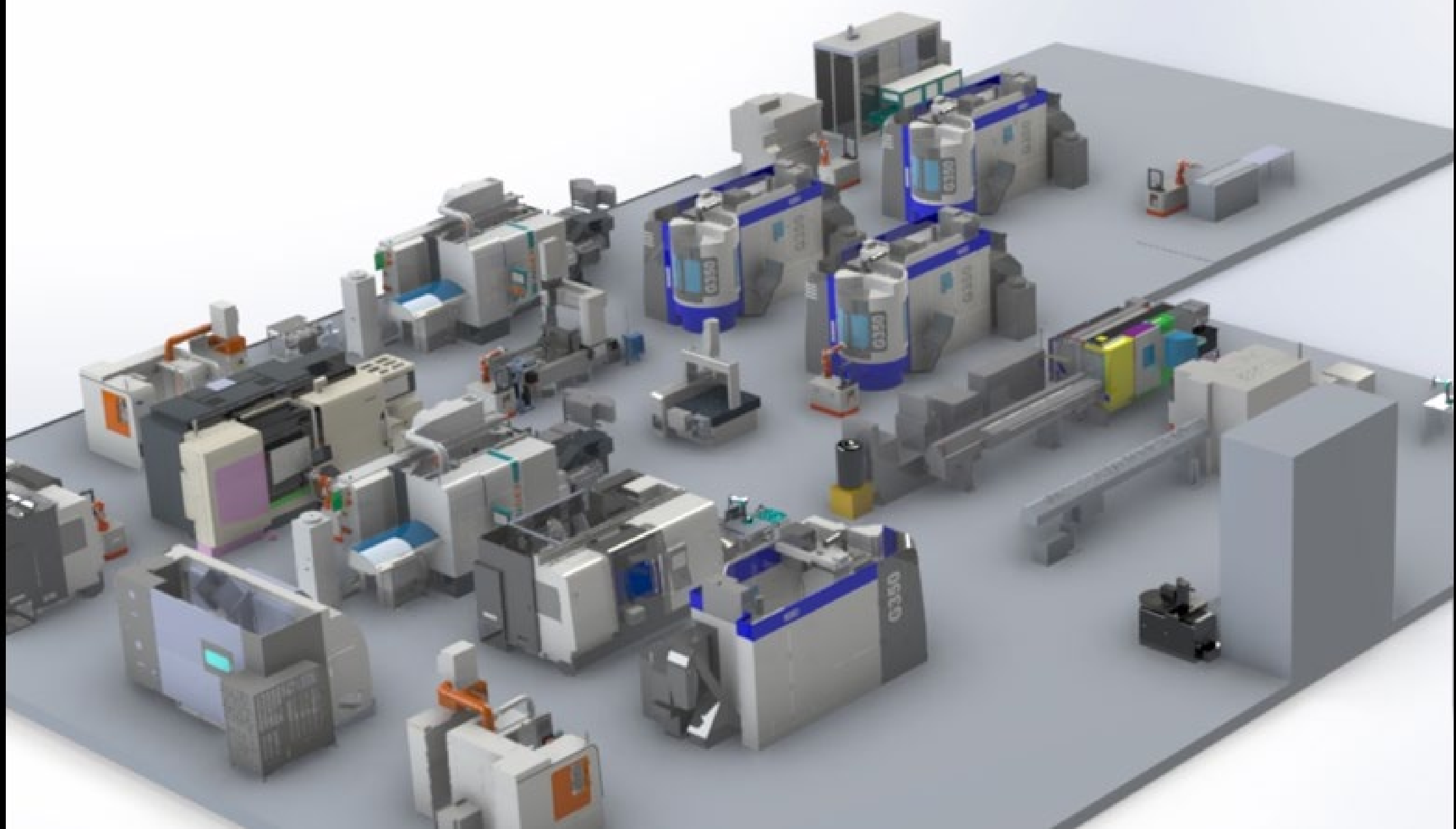
Upcoming 9

- Go for run  
7:30am Tomorrow 20pts



Information





*Connectivité et information,  
Multiplicateur de valeur*

Par Yves Proteau





# Schivo

**We Listen. We Develop.  
We Create.**





# INDUSTRY 5.0



Human-  
centric



Sustainable



Resilient