

# Agfa Industrial Workflow 4.0

From Toast to Laminate



Zagreb – 26 October 2021

Mike Horsten

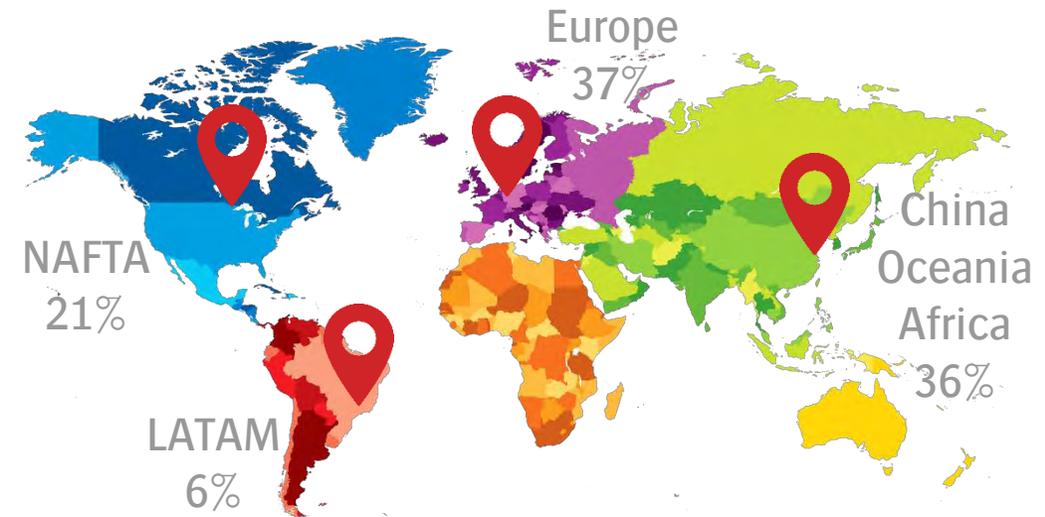
Global Business Manager InterioJet



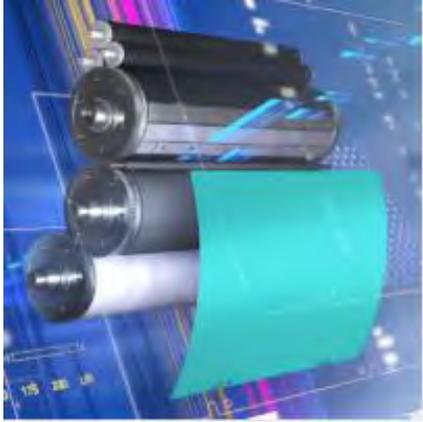
# Who is: The Agfa-Gevaert Group

- Founded in 1867 – over 150 years old
- HQ in Antwerp, Belgium
- 7,500 employees worldwide
- Offices in more than 40 countries
- 25 R&D and production sites around the world
- Global market leader

## Agfa Worldwide



# The Agfa-Gevaert Group



Offset Printing



Inkjet Printing



Radiology Imaging



HealthCare IT



Industrial



# Fun facts...

More than 150 years of imaging expertise

#1 in film Worldwide  
#1 in prepress in Europe & Latin America  
1 out of 2 newspapers are produced with  
Agfa technology

Co-founder of the PDF/JDF industry standard

Majority of the world's value papers (passports) are  
designed with Agfa's security software



# Agfa Industrial WorkFlow 4.0

## ■ Industrial Production workflow



CONTENT



DATA  
PROCESSING



PRINT  
PRODUCTION



FILM/PLATE  
OUTPUT



FINISHED  
PRODUCTS

- Lets make some Toast first



Easy right?

# Toast basics

- Well we need to know what we want first!

- Spanish toast ->>



# Toast basics

- Well we need to know what we want first!

- Hawaii toast ->>



# Toast basics

- Well we need to know what we want first!

- Italian toast ->>



# Toast basics

- Well we need to know what we want first!

- Cinnemon Toast ->>



# Toast basics

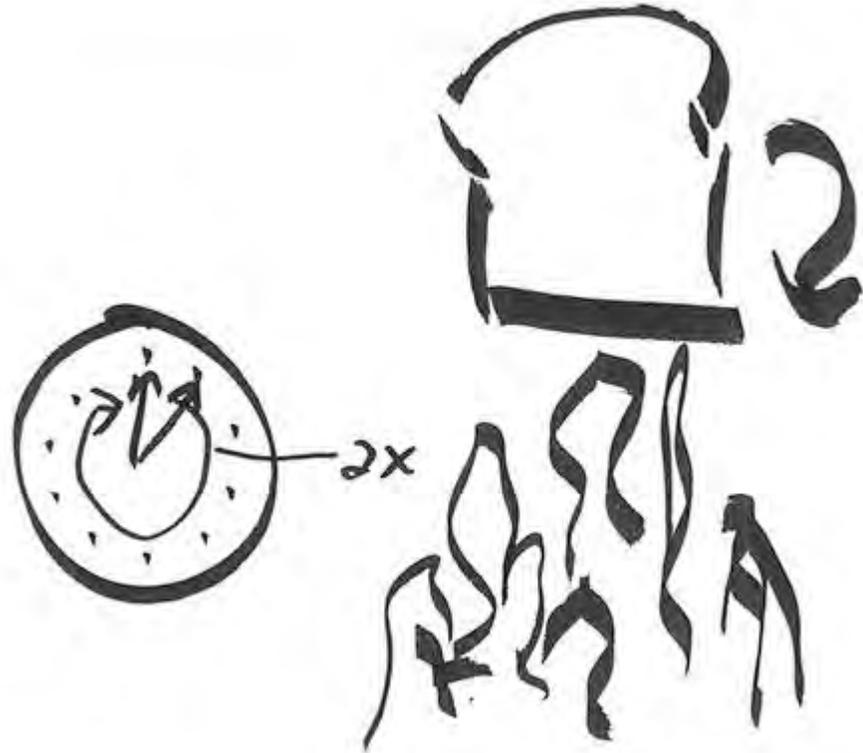
- There are too many choices...



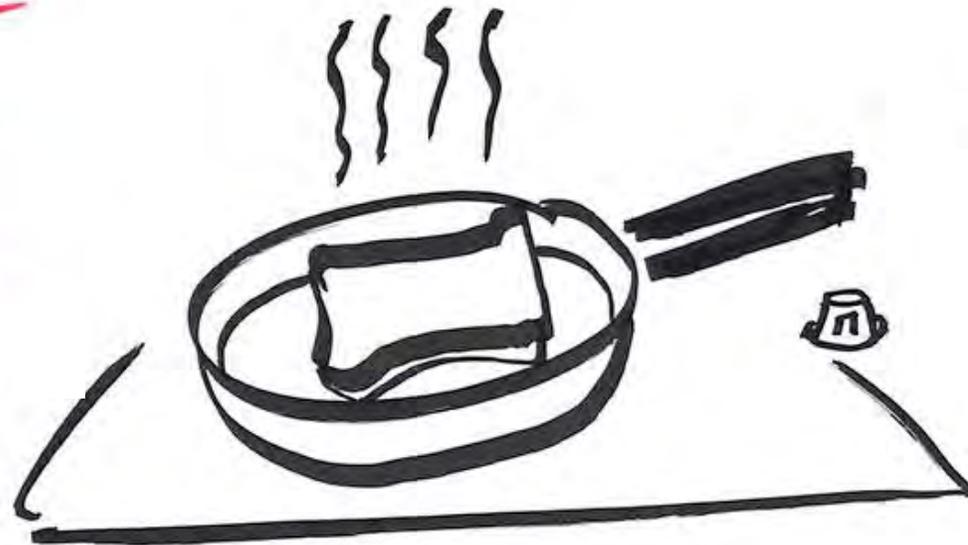
- So, let's keep it simple
- Lets make :  
Butter and Jam!  
Toast



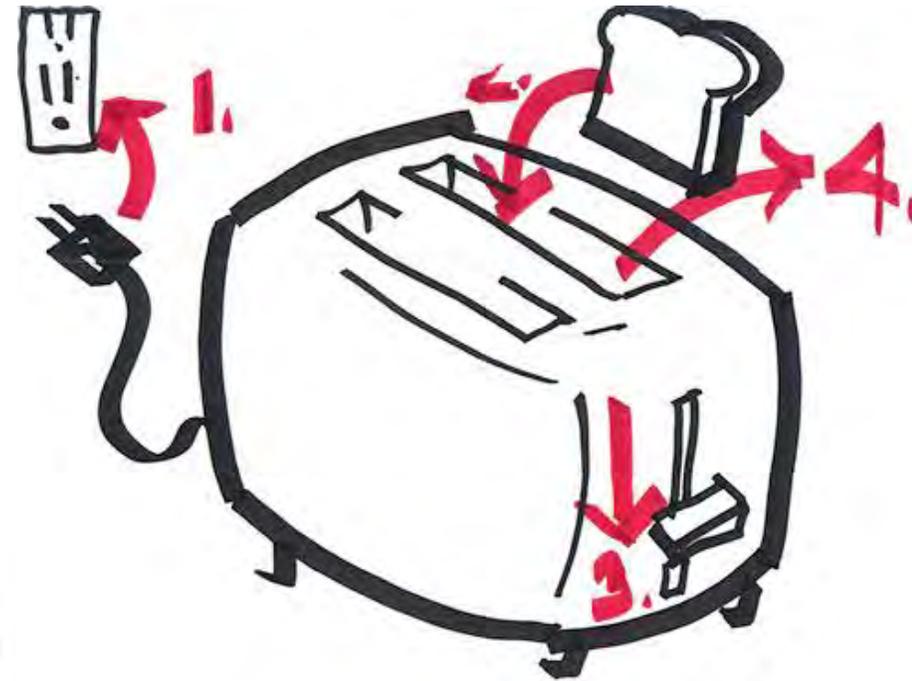
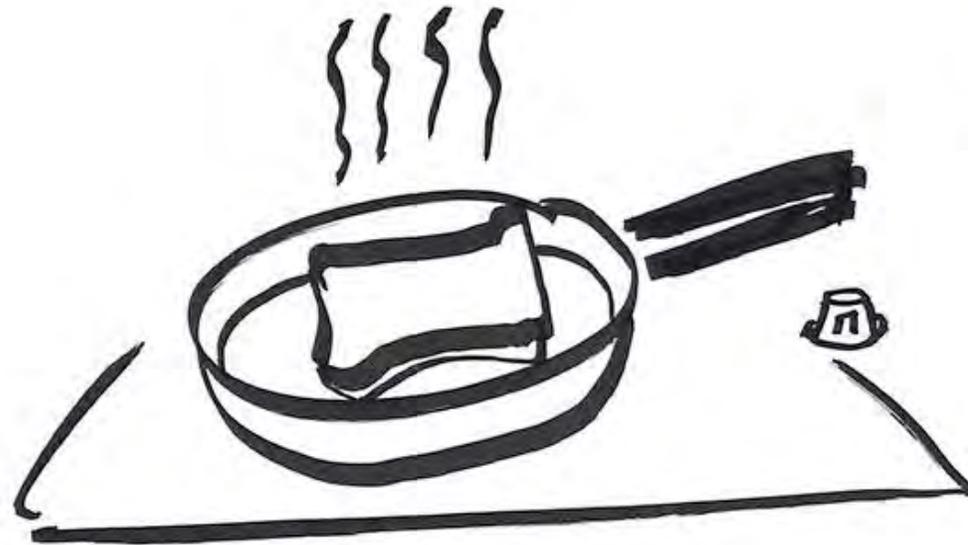
So I asked a group of people like you to help me.



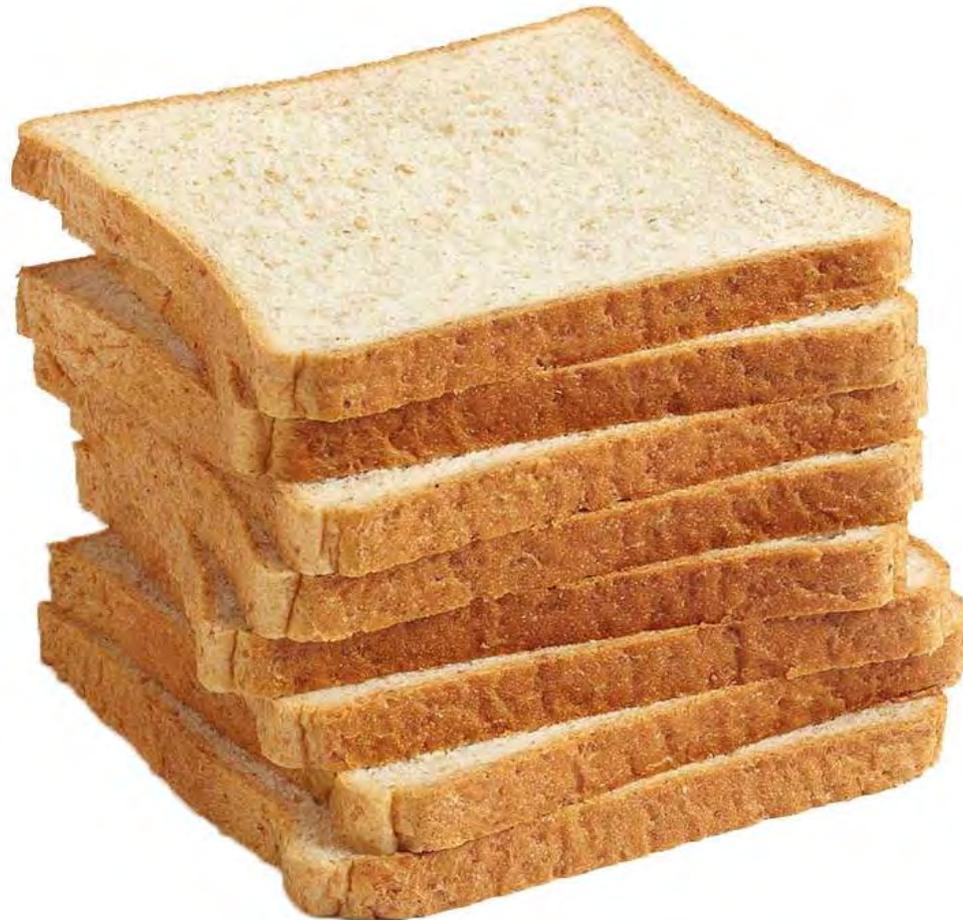
First how do we make toast?



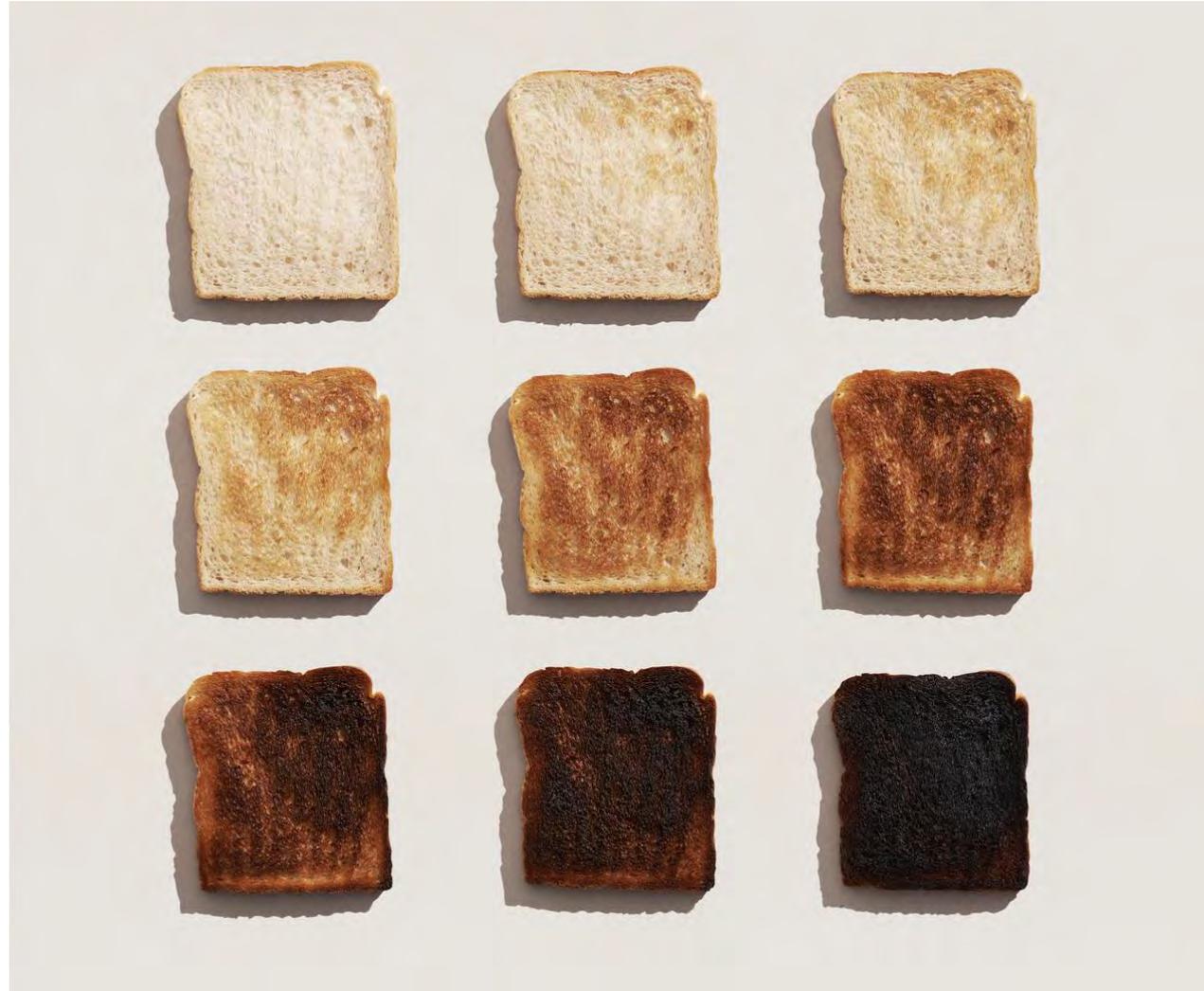
First how do we make toast?



What are our starting points



## Quality control



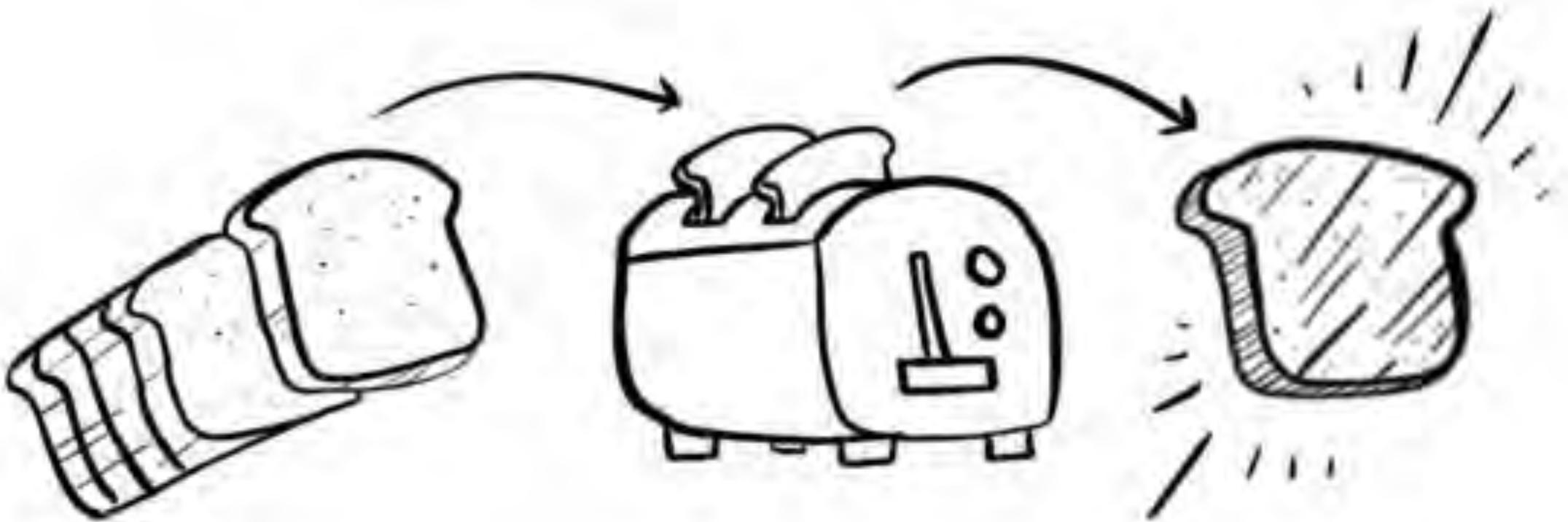
## Presentation



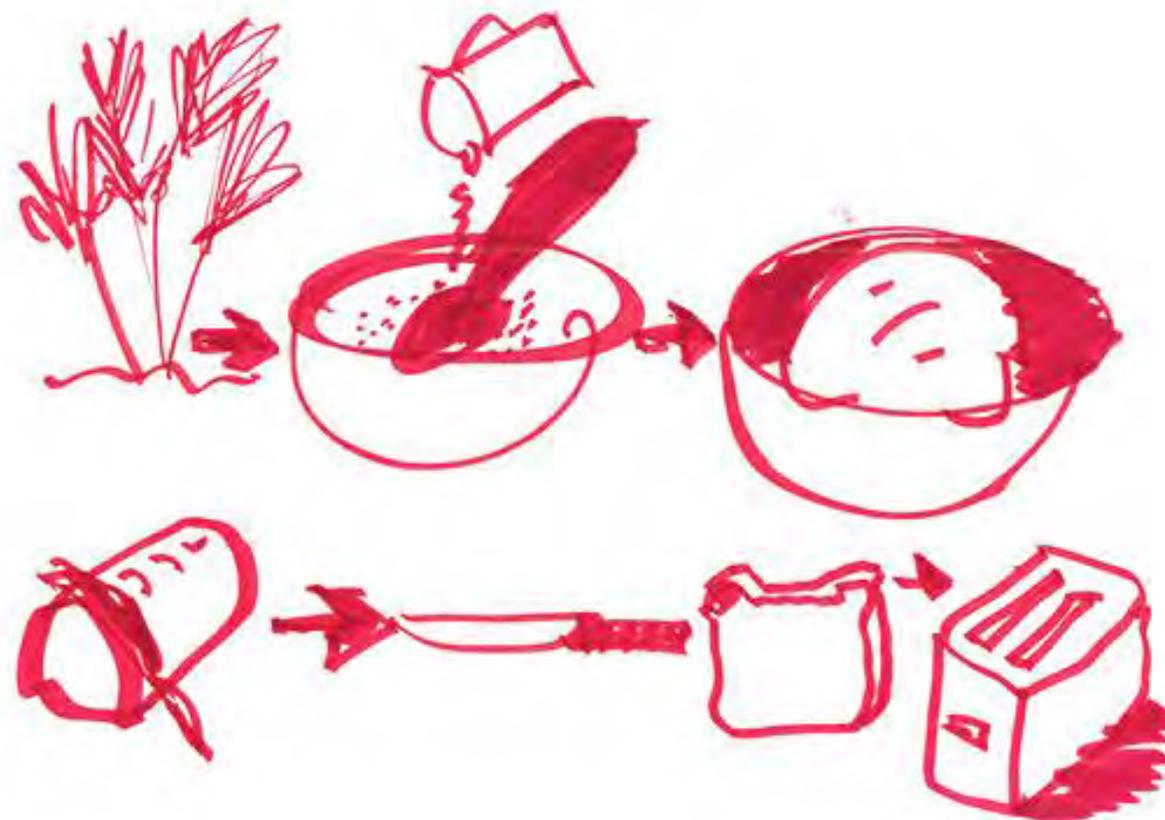
OR



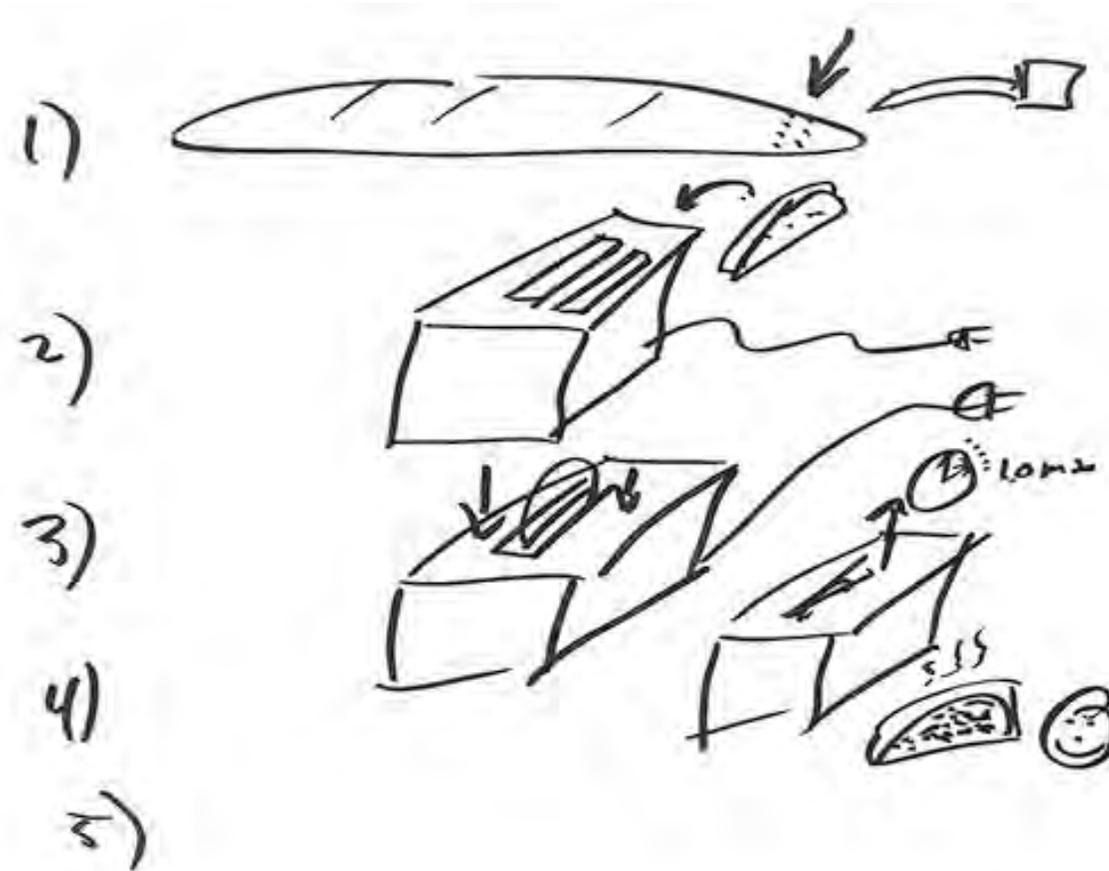
OK Lets make toast



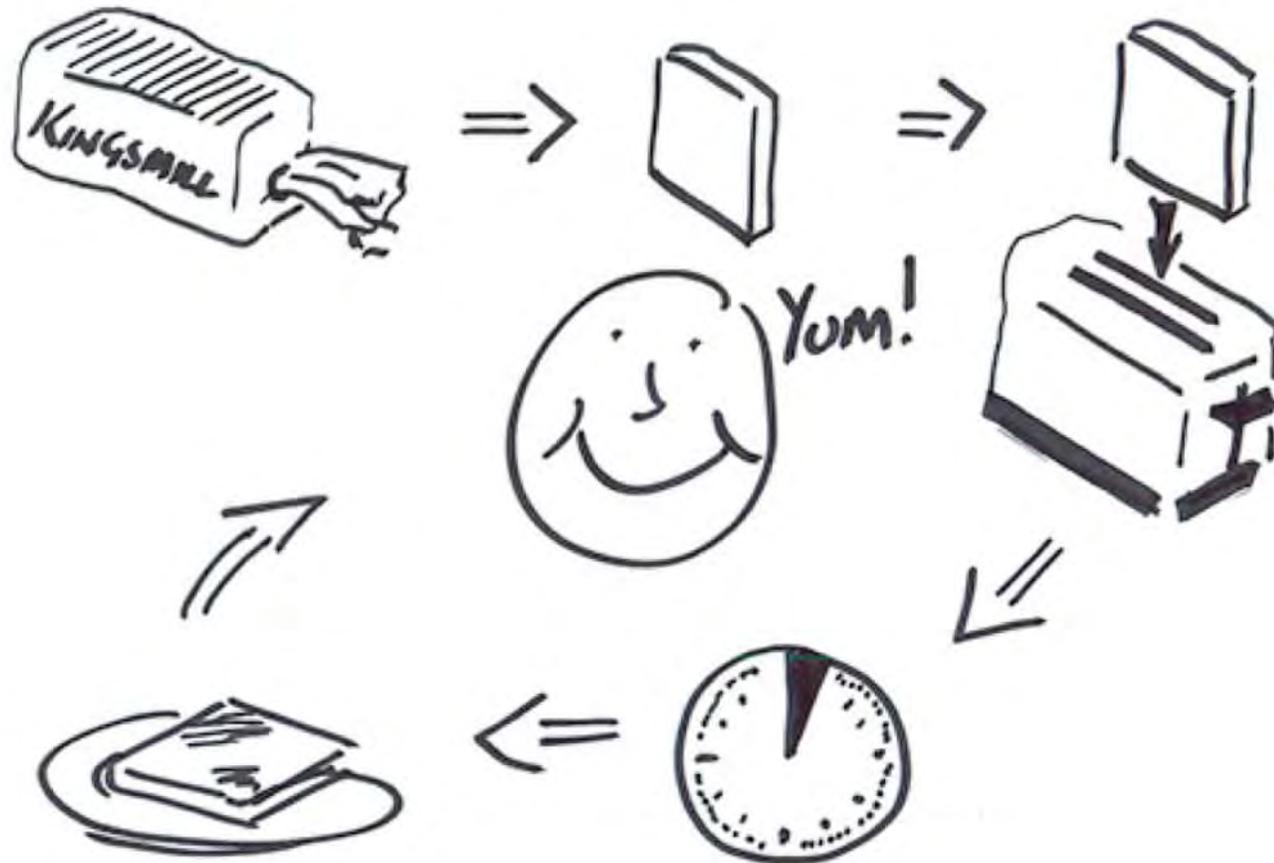
## From A to Z



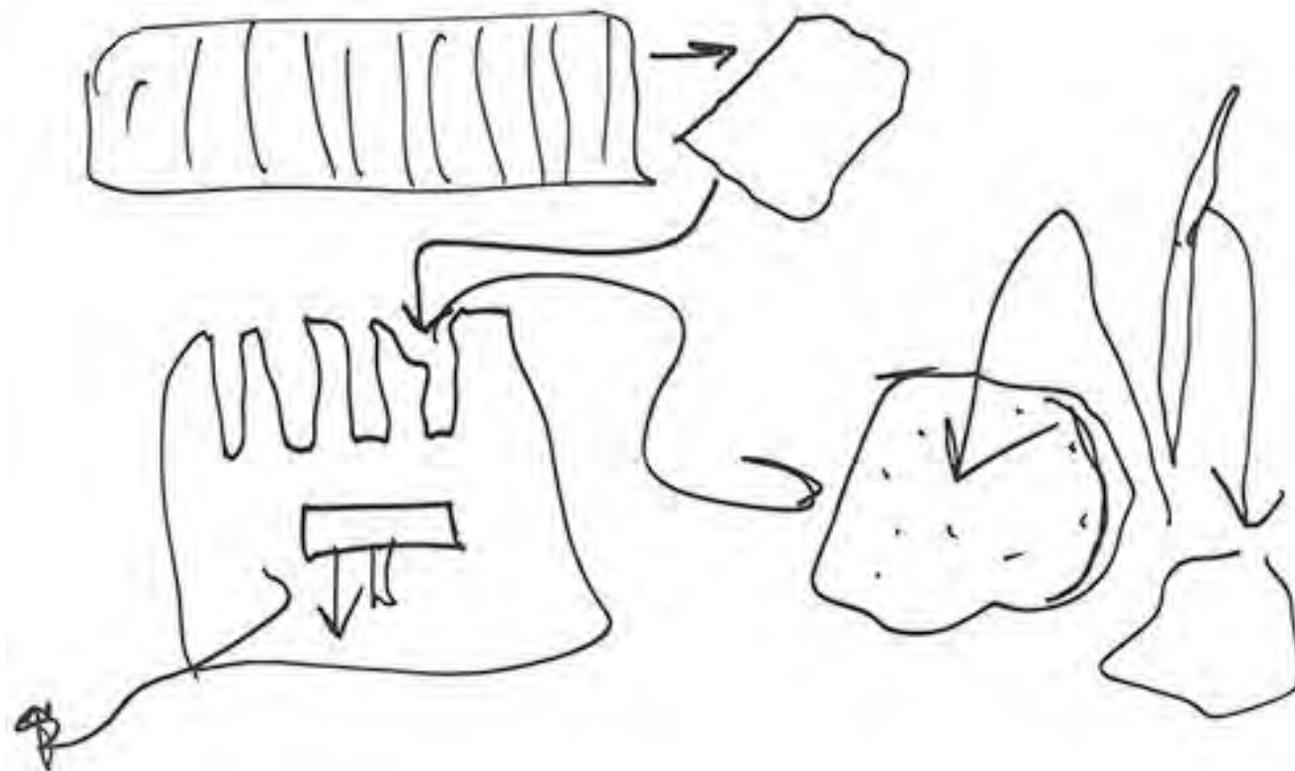
## Cultural



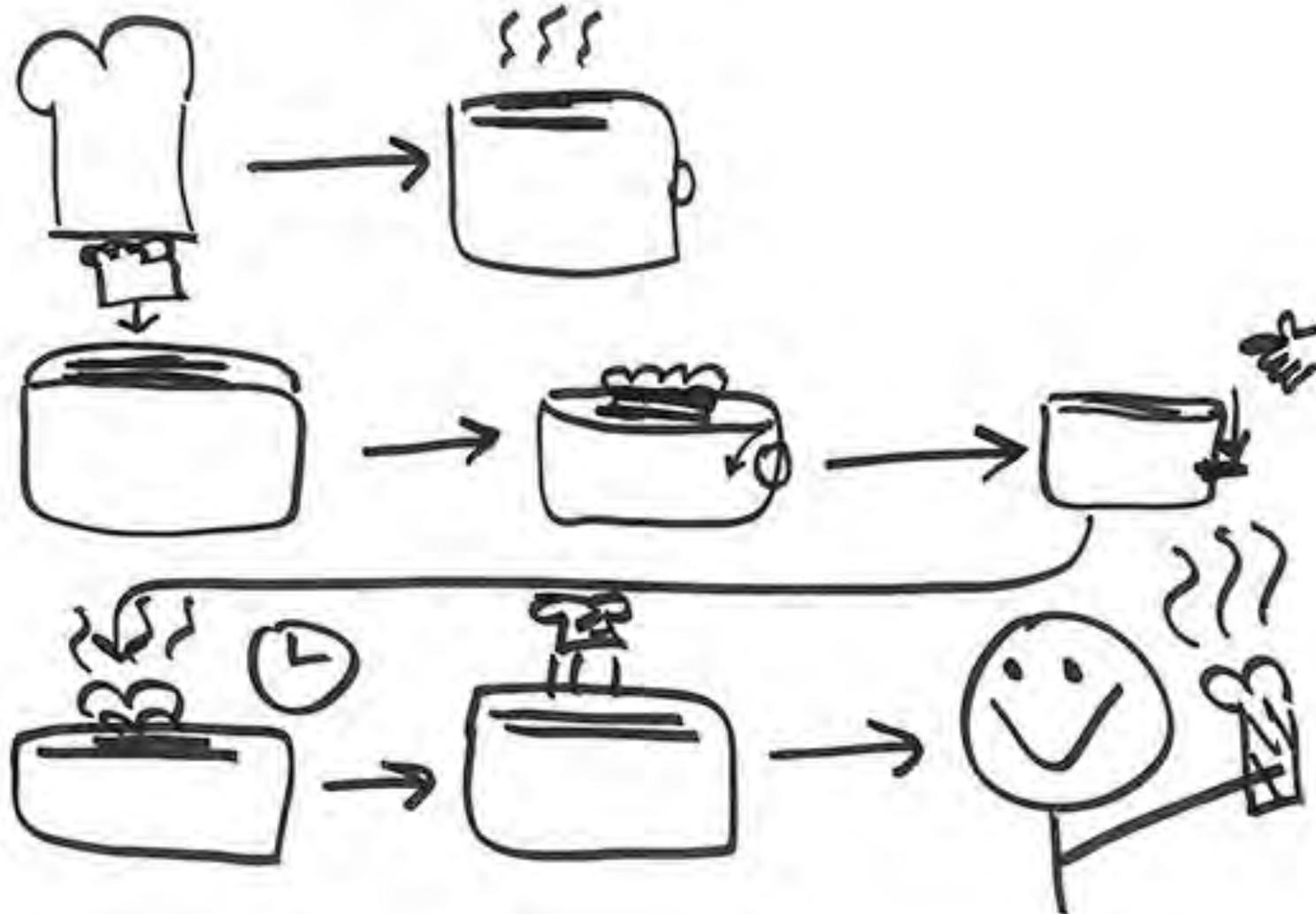
## Round happy man



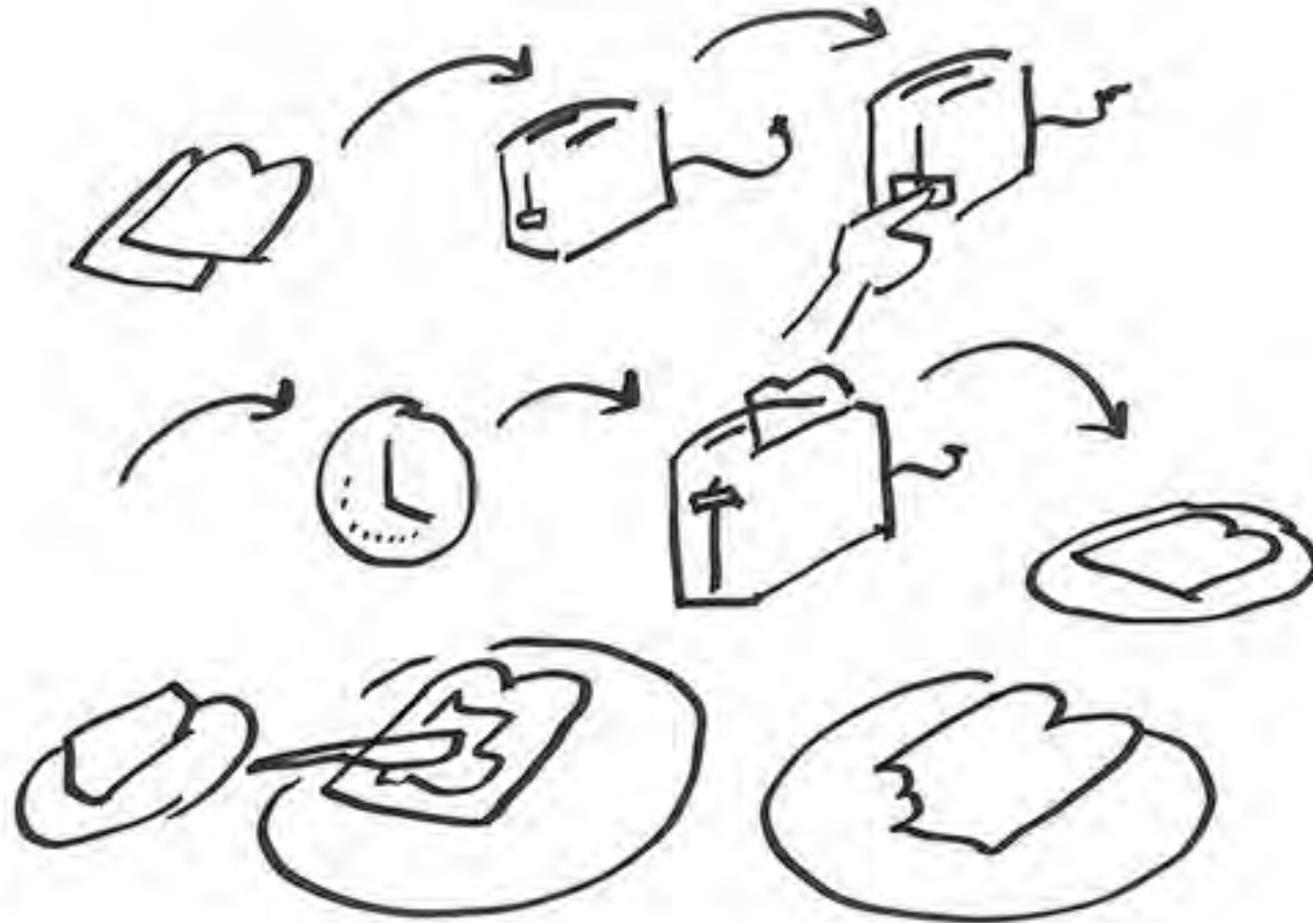
## Questionable



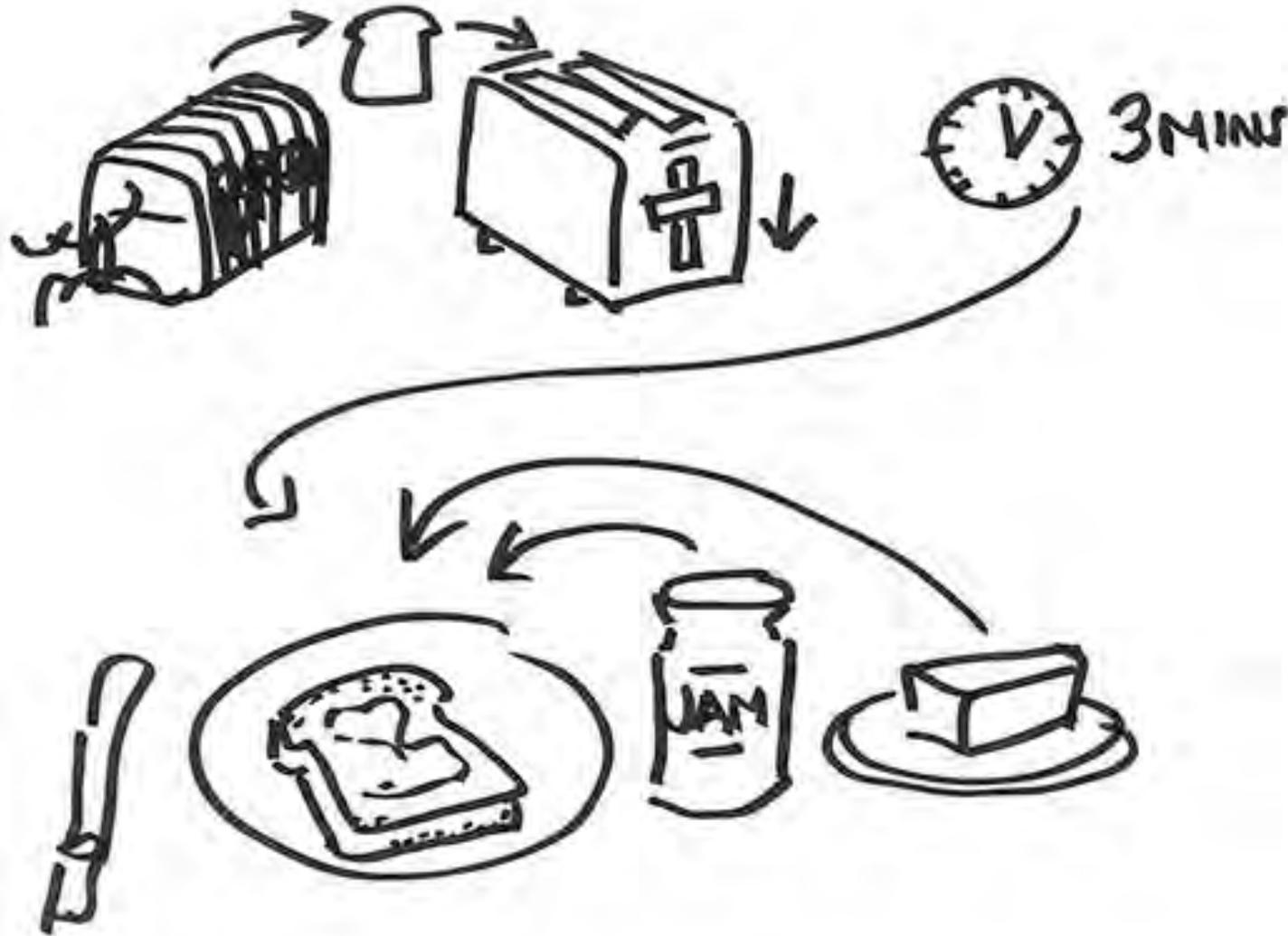
## Organized



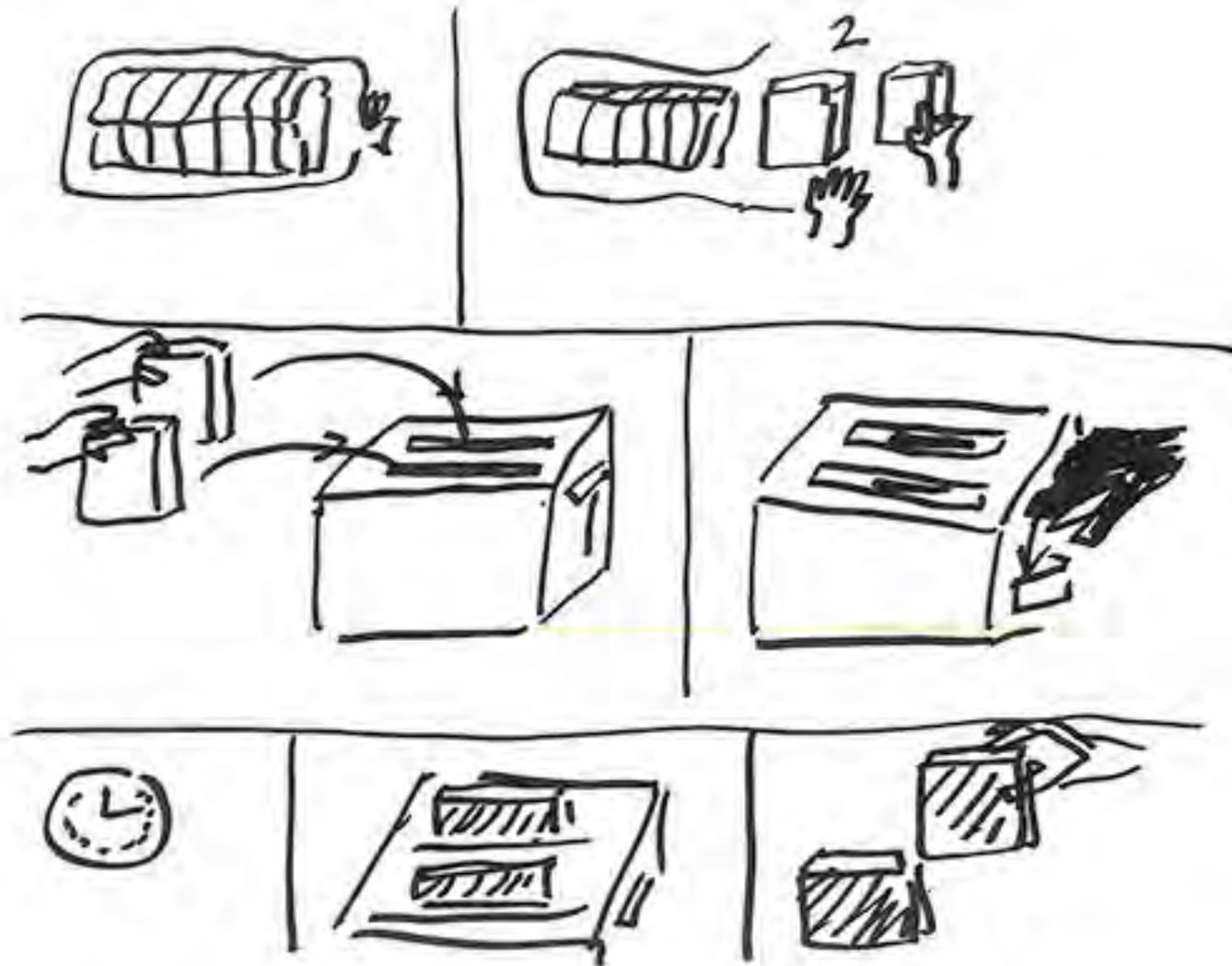
## Step by Step



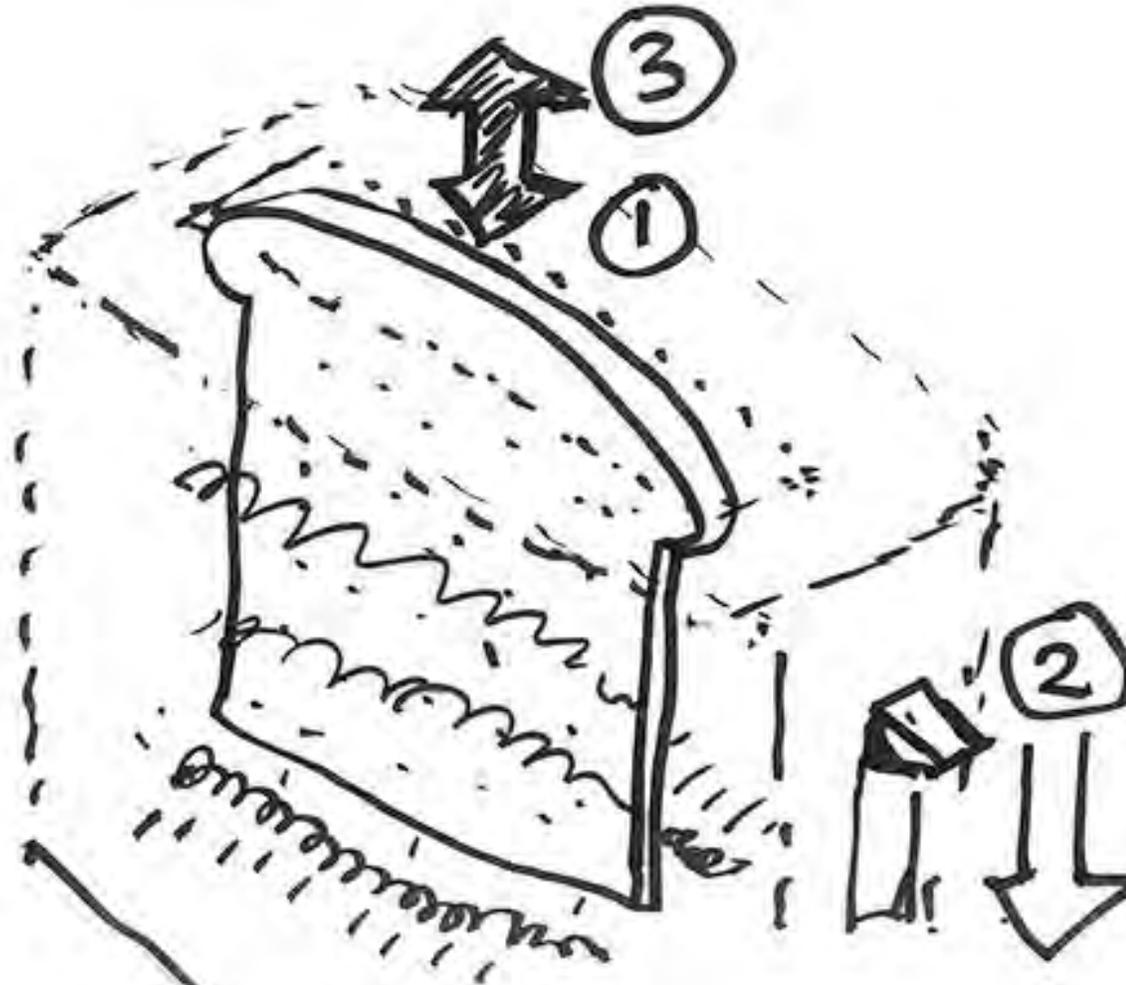
## Multitasking



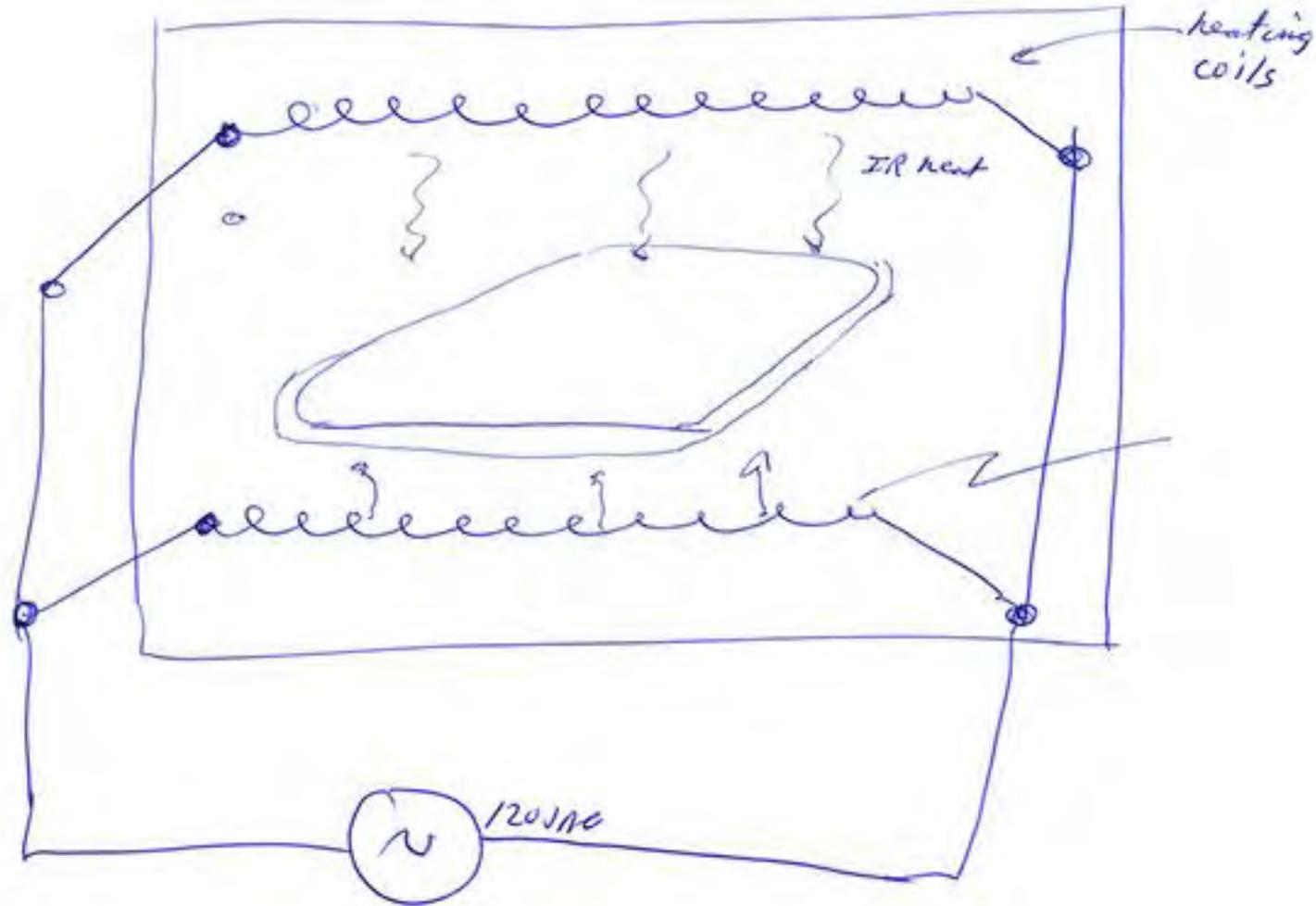
## Segmented



## The Engineer



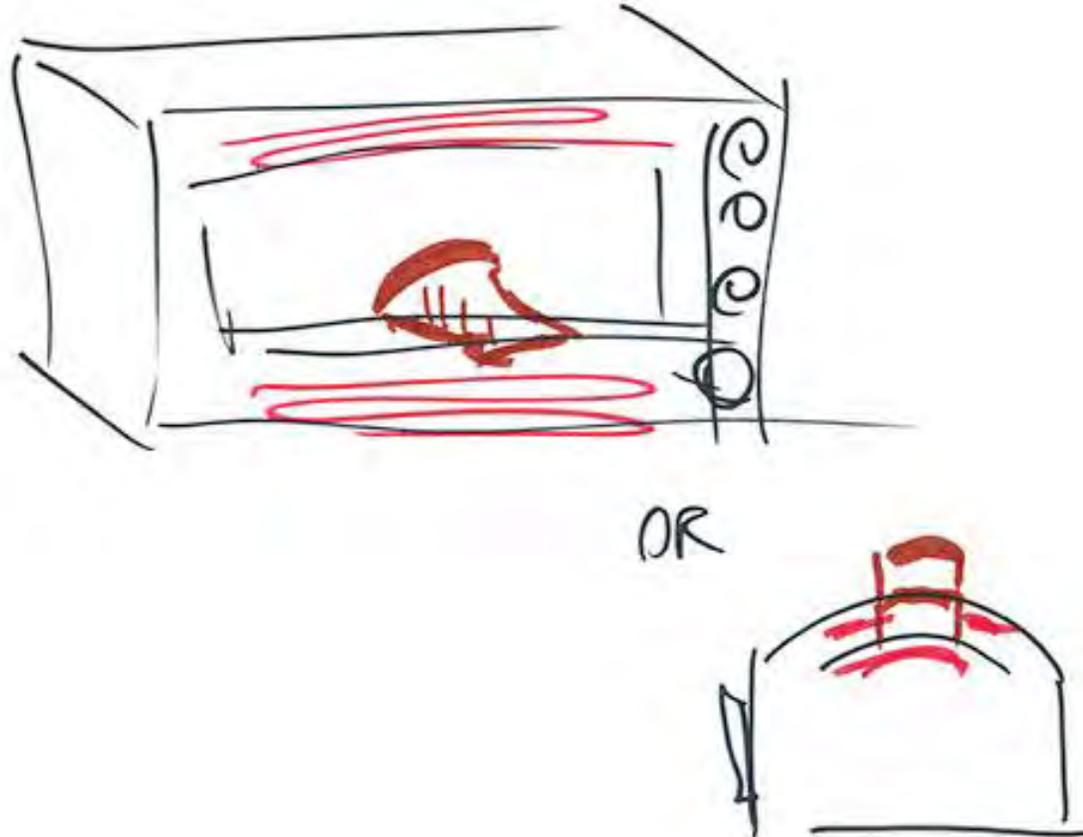
# The Electrician



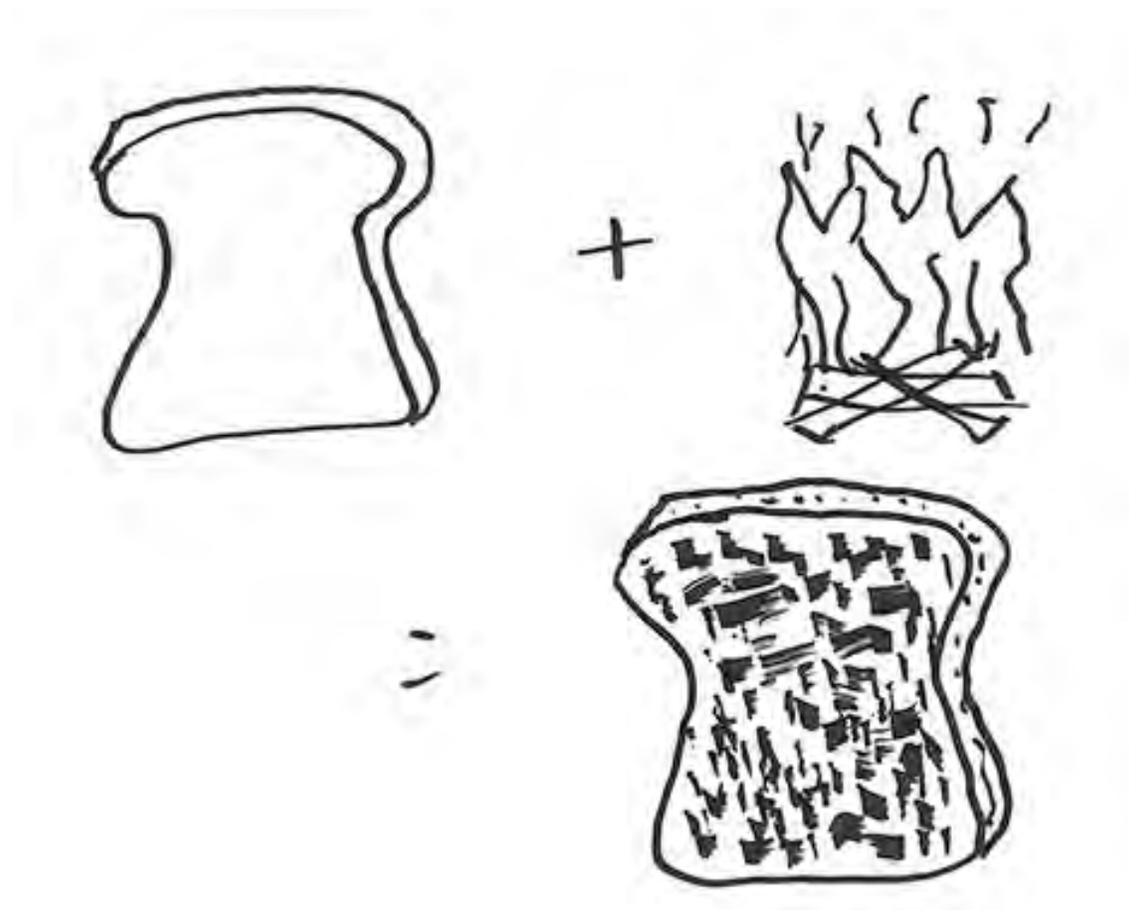
## The Student – NO MONEY TO DEVELOP ANYTHING



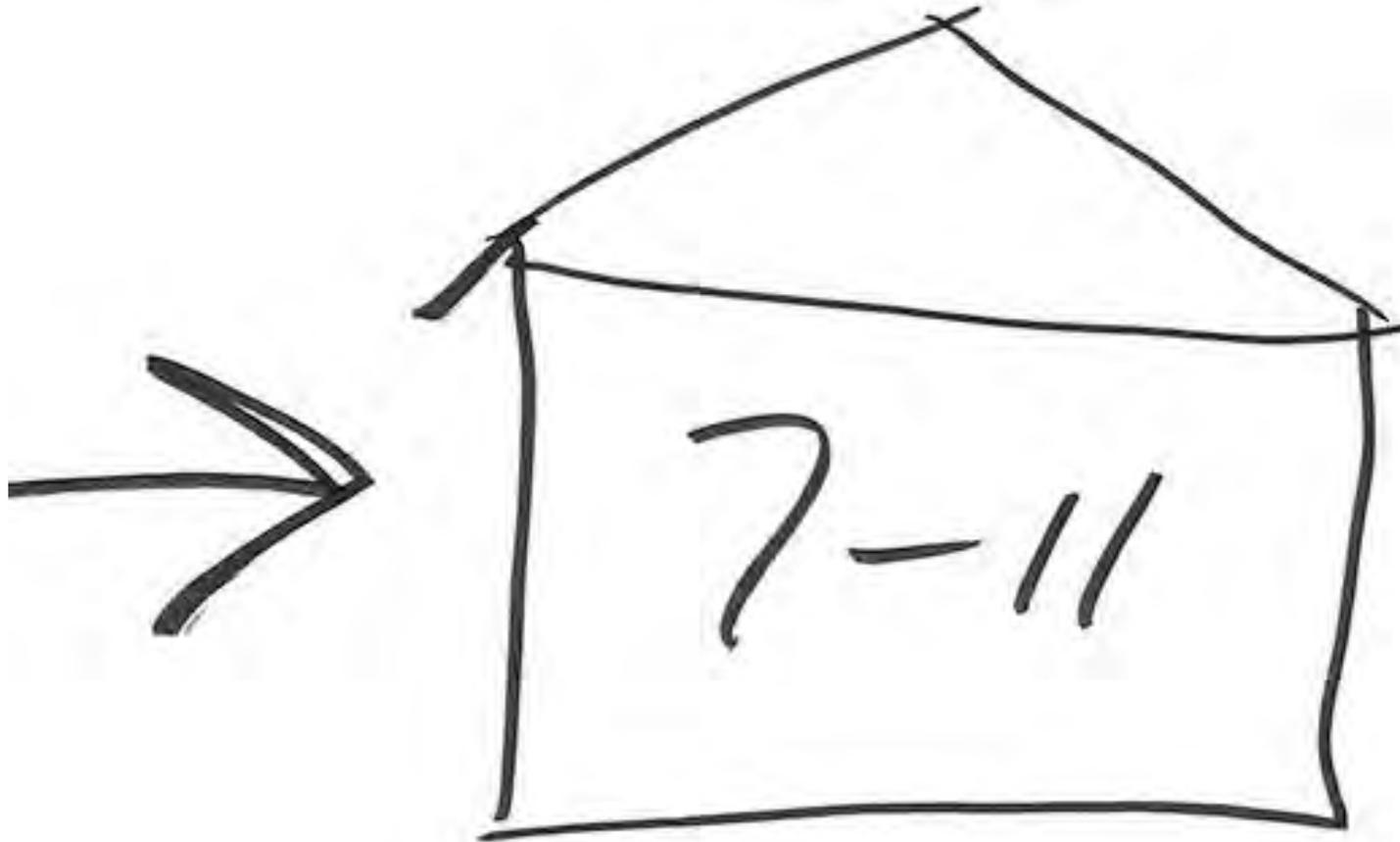
## Change Technology Guy



## The Simplelist

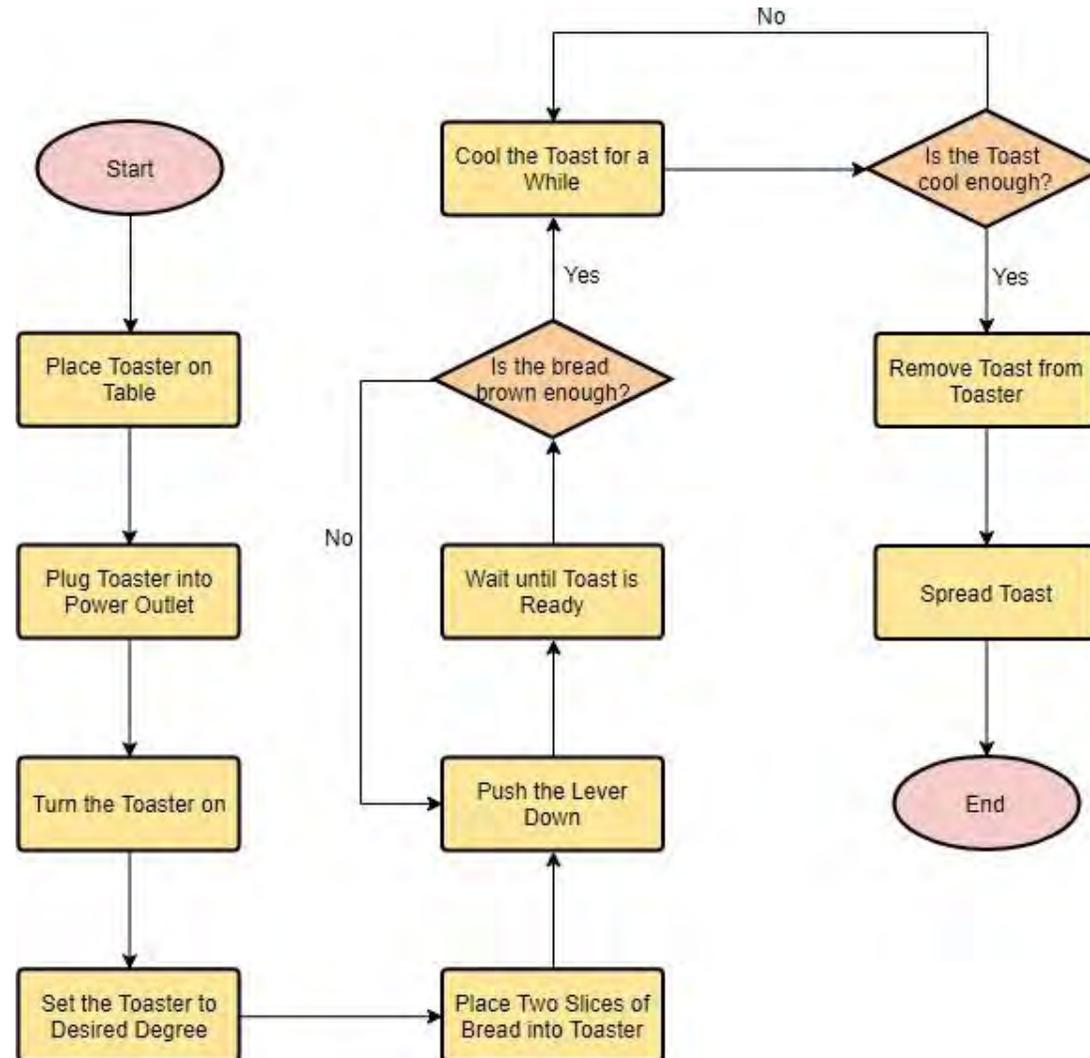


## The Lazy One

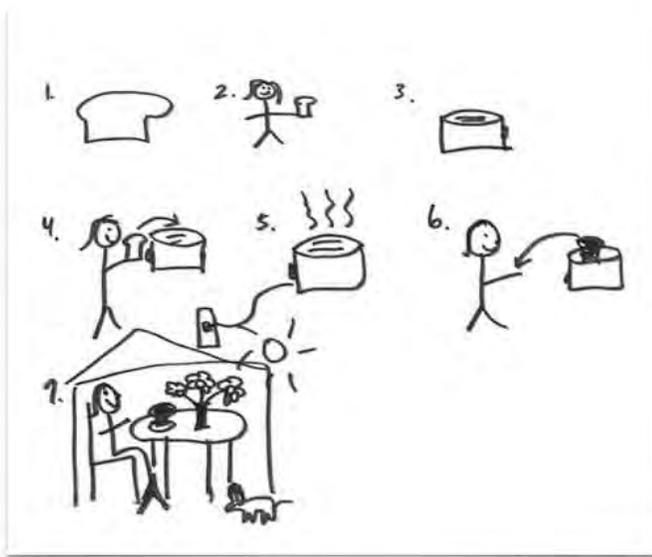




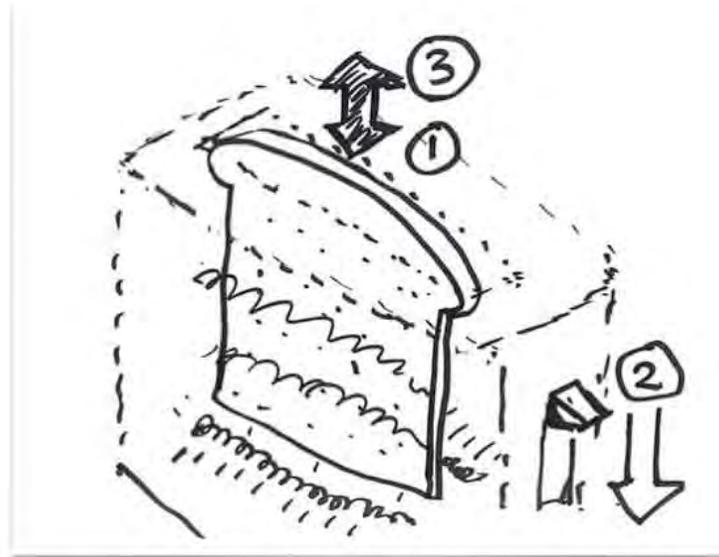
## The Result A Workflow



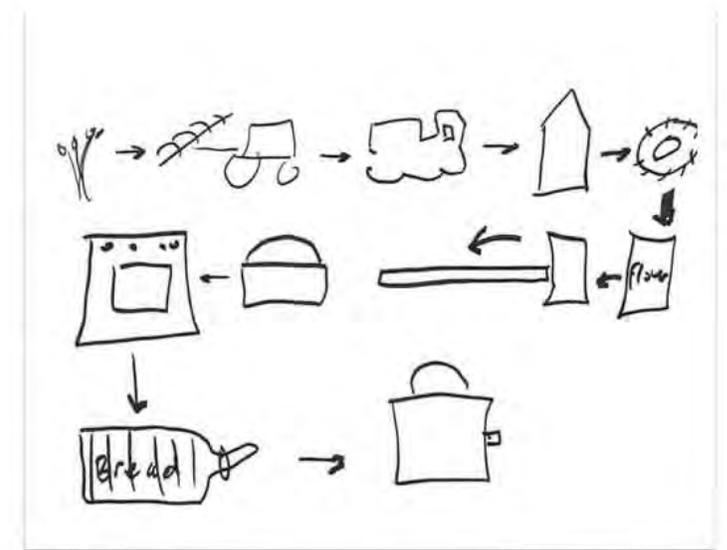
Its important to Analyz the ways



People

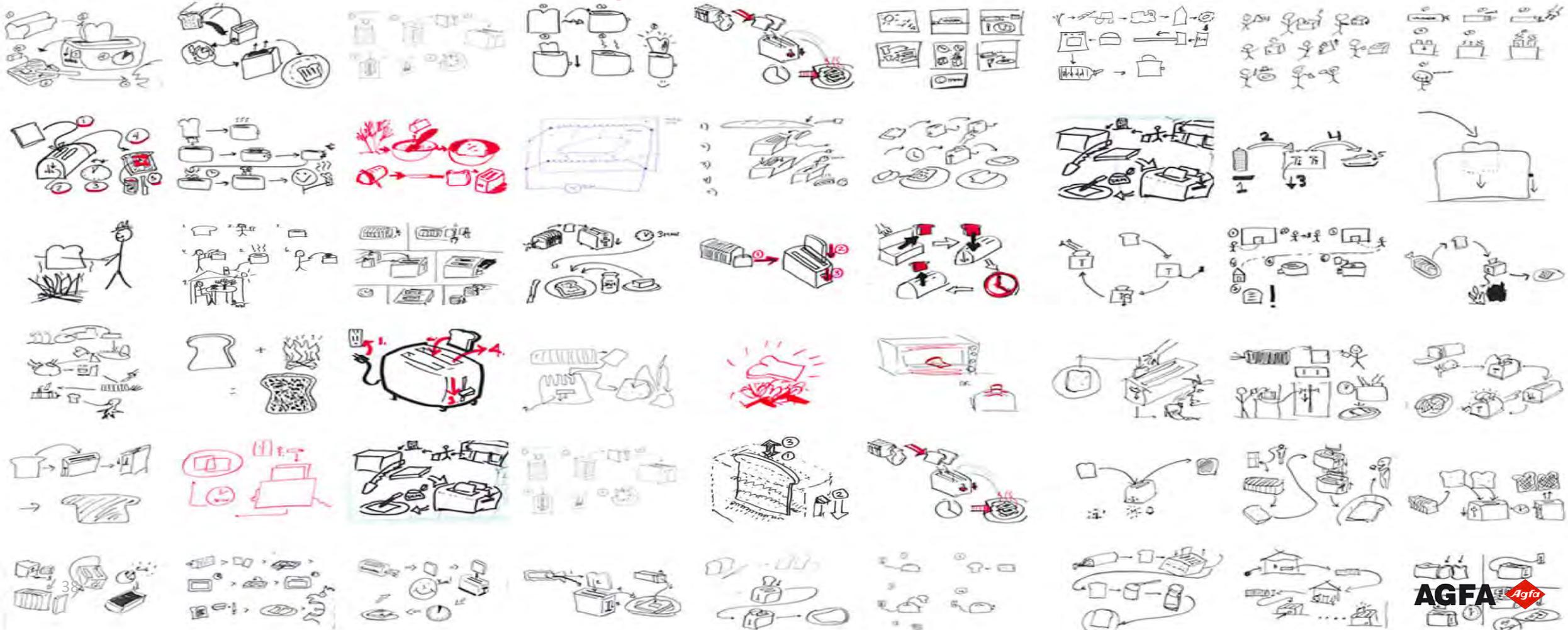


Mechanics

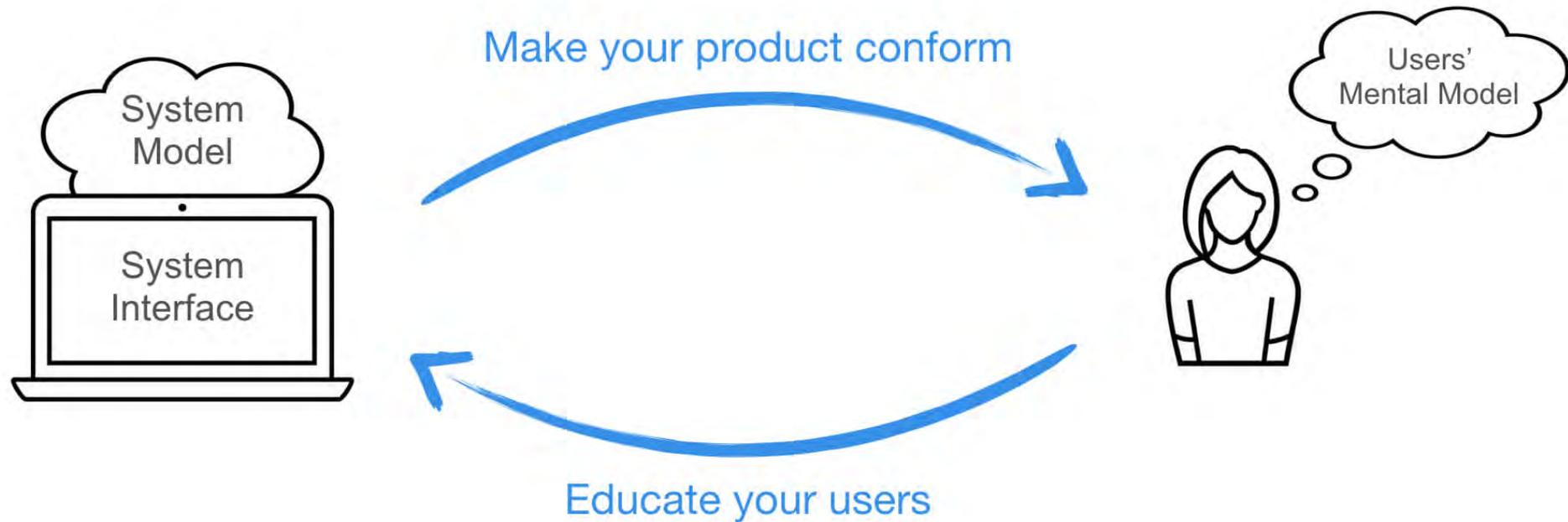


Supply Chain

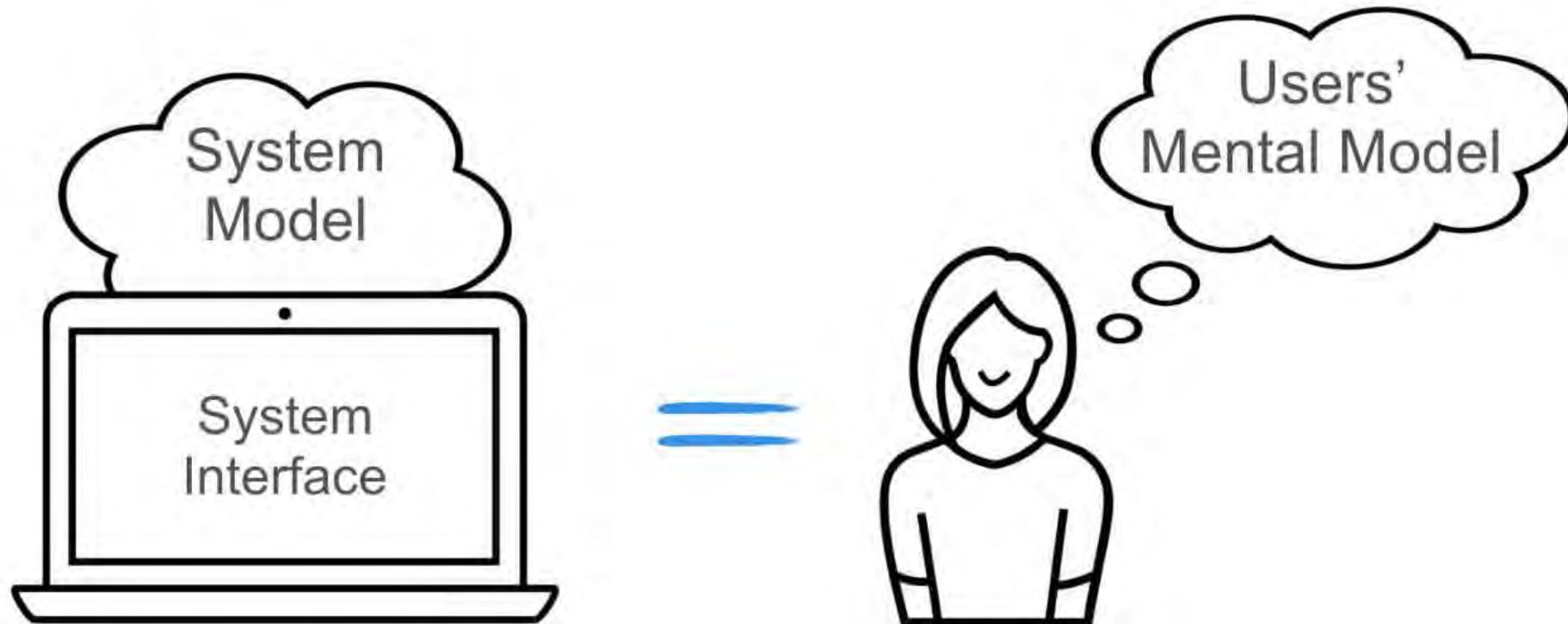
All steps are ok but are they efficient?



## Education and Product Expectations go hand in hand



If its clear to everybody, it works



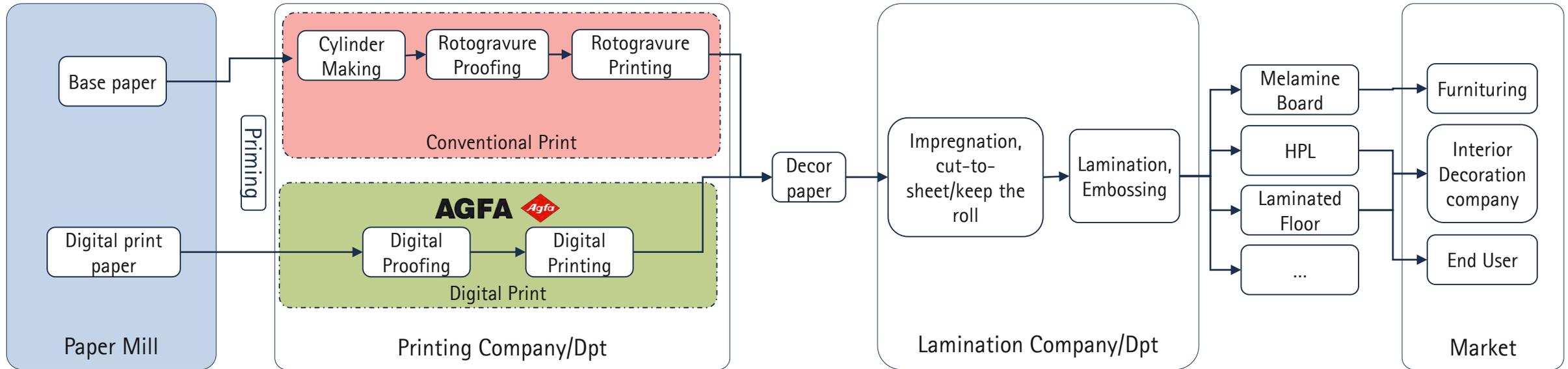
# Industrial Surfaces and Flooring

## So how does this apply to Flooring and Surfaces.

- Clear methodology for flooring and Surfaces
- Clear combinations of Agfa Inks, Printers and Software
- Clear Support Services and Training
- Clear objectives and end results for both parties involved
- Remember this is industrial printing 4.0



# Today's Manufacturing Workflow



## Base Paper

- A titanium dioxide paper containing 20~40% titanium dioxide, 60~150 gsm, in shades from white to brown
    - china clay, talcum powder and calcium carbonate for cost alternatives
  - Highly air permeable
  - Good water absorption
  - Priming needed for digital print
    - Arcolor
- Digital print paper already primed
- Technocell
  - Kingdecor

## Paper attributes

- Frequently used paper width 1.25m, 1.34m, 1.55m
- Run length about 5000 m, coil weight 600kg
  - For Interiojet 3300, max coil load 600kg
- Quality requirement
  - No wrinkle or cease
  - Side registration first 10 meter  $< \pm 2.5$  mm, afterwards  $< \pm 1.5$ mm
  - No cross web hair lines
  - No banding in either direction
  - Same batch color difference  $< 1$
  - No visual difference batch to batch

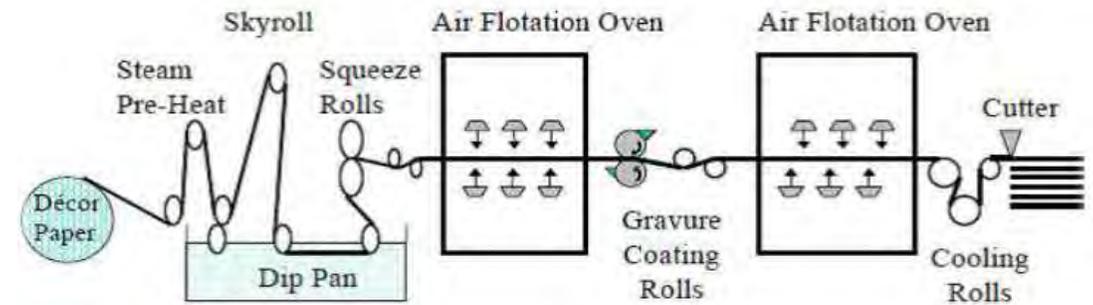
## Melamine

- A melamine solution, hot dry around 190°C speed up to 35m/m
  - Paper expand 15-30mm after impregnation because of good absorption
- Standard finishing size of decor board: 4x8 feet, 1220x2440mm
  - Other common size: 1525x2440mm, 1830x2440mm, 2070x2610mm, 2070x2700mm
- Physical attributes

# Same industrial workflow

## We are only a small part of the whole

- Impregnation process
  - Dip the paper into the dip pan of melamine solution, heat and blow to dry
- Size changes during impregnation
  - Normal paper roll width: 1250mm up to 1550mm
  - About 2% elongation in both directions after impregnation
  - The impregnated paper are then cut to sheet



# Combining Expertise

**Printer**

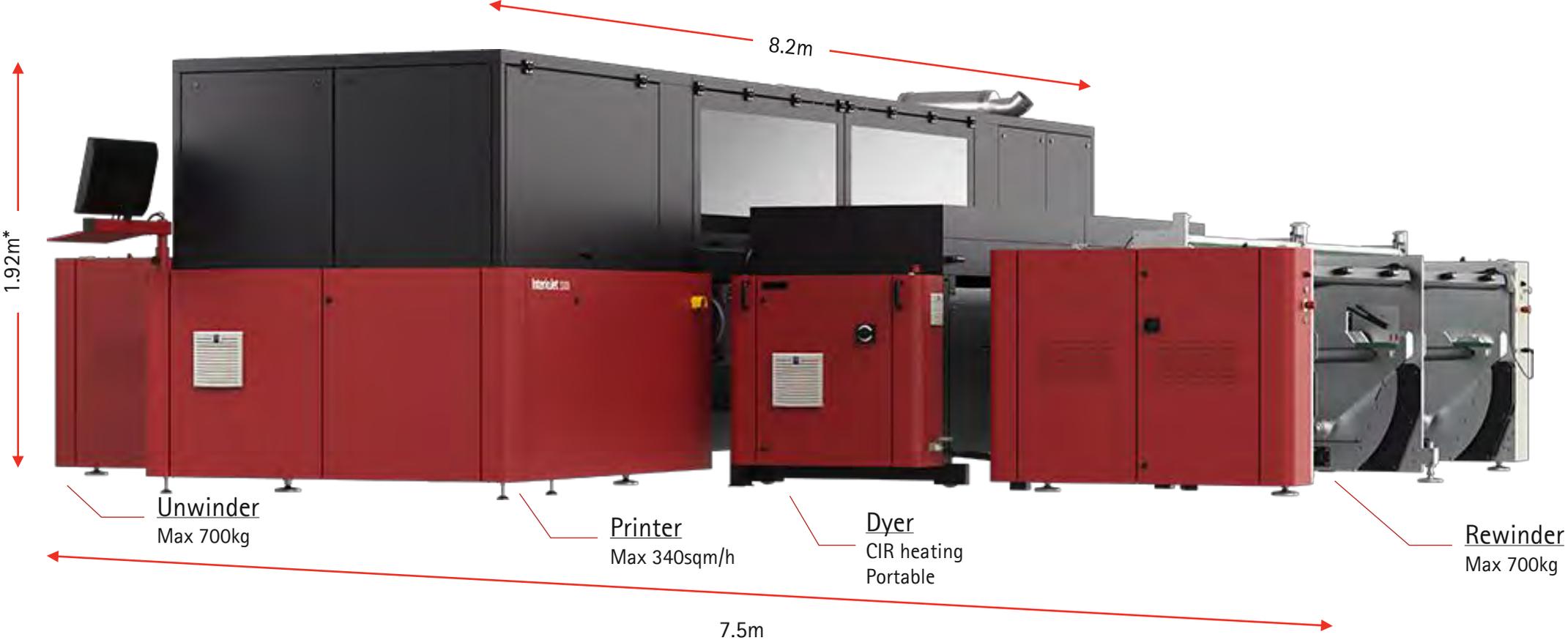
**Primers for  
substrates**

**Agfa Ink**

**Software**

**Services**

# InterioJet 3300



\* The chimney not included

# The InterioJet 3300 Solution

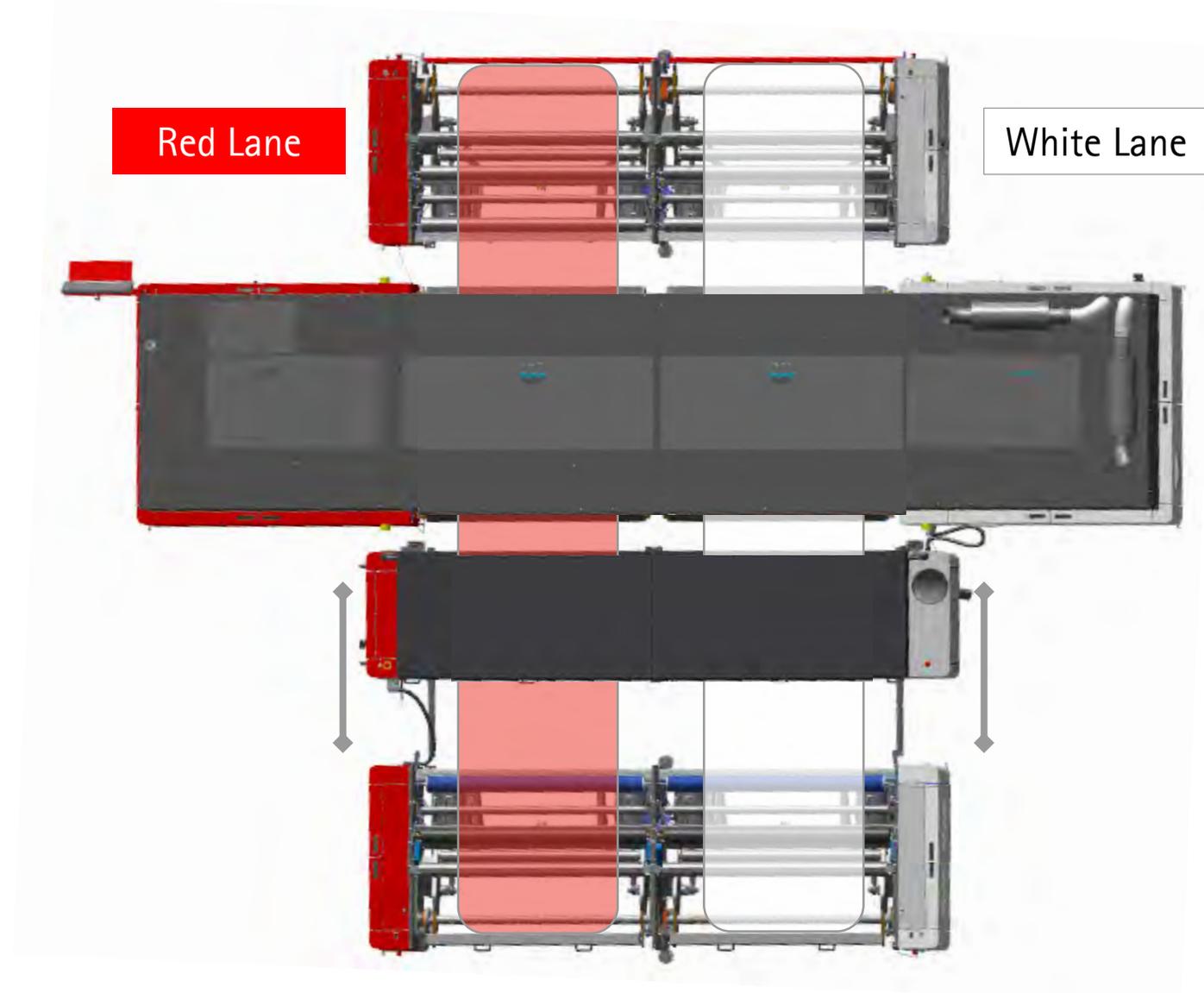
## Highlights of the InterioJet system

- Print engine (Hardware)
  - Heavy duty printing engine capable of producing 340 Sqm per hour
  - 60 print heads giving 2x 600 DPI per colour
  - 2x 1550mm print width
- Paper Transport
  - Heavy duty unwinder and rewinders with 2 tension zones
  - Jumbo roll options
  - Easy loading of jumbo rolls (option)
- Ink system
  - Large ink reservoirs for continuous unattended production
  - Unique ink set for Decoration surfaces with a high color gamut
    - Pigment colors are the same as Gravure pigment colors
  - Agfa Primers available for self coating on Gravure machines



# InterioJet 3300 Dual-lane System

- Separate production lanes
  - White and red lane run together or separately : 2 separate transport belts
- Max media width 1550mm per lane
- Independent image print per lane



# Industrial Surfaces and Flooring

## Working closely with Unilin Technologies

- Unilin is a leader in the industry & a strong partner in Flooring
  - Part of Mohawk Industries the largest flooring manufacturer in the world
  - IP holder of many patents in the flooring industry
- Brand names like Mohawk, Pergo, Quickstep and Balterio
- Agfa understands Flooring and Surfaces, its not a extra product



## Agfa WB & UV Inks and Primers

- Specially developed Agfa WB Inks for flooring and surfaces
  - Special Water based Red ink– for wood décor designs
  - Agfa uses the same pigment colors as Gravure printing
    - Pigment selection:
      - Cyan: PB 15:3
      - Yellow: PY150
      - Red: PR254
      - Black: Carbon black
      - Light black Carbon black
    - Specially developed primer for HPL/CPL flooring technologies
- Understanding the market from within not from the S&D world



# Industrial Surfaces and Flooring

## Our WB Systems has been Field tested in Russia/Belgium/China

- 2 year Field testing program before availability
- Industrial Printer with 24/7 printing capabilities
- Strong new concepts like Dual Lane printing
  - Independent paper transport for extreme accuracy
  - High accuracy in dot placement
- Local Service models



## Family of solutions for flooring

- Agfa InterioJet 3300 Dual-lane Printer (Water Based)
  - High Pressure Laminate - HPL and CPL
- Agfa InterioJet 3300 LVT Single lane (UV based)
  - LVT - Luxury Vinyl Tiles Market



# **AGFA InterioJet**

the next generation  
inkjet based solution for  
**Flooring & Surfaces**



**Thank You**