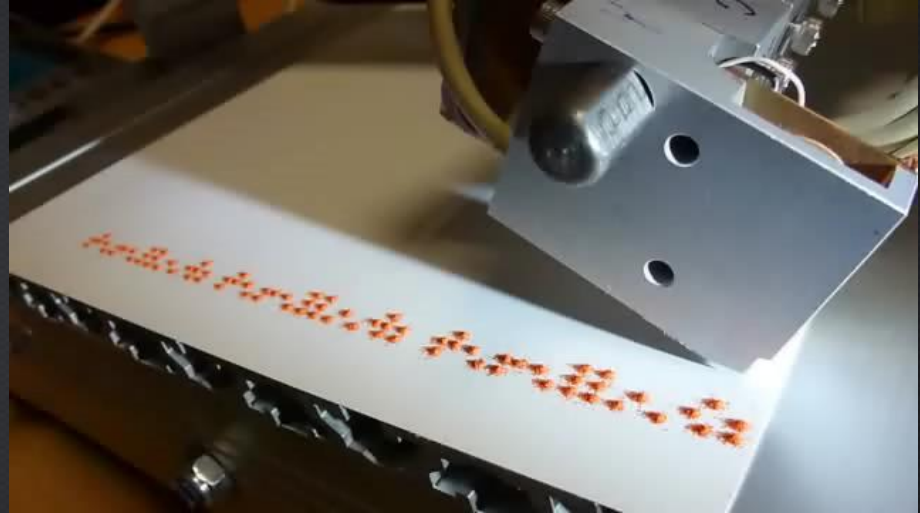




Digitally controlled Braille and tactile graphic jet printing

## BrailleJet in brief

- Braille and tactile graphic printer for the blind and visually impaired people
- Similar to an inkjet multifunctional device (printer, scanner, photocopier)
- Based on accurate powder deposition solution
- Suitable for home use with ergonomically optimised for the end users
- Environmentally friendly technology



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## Novelty

- Innovative business model
- Unique solution
- Use of normal paper
- Inkjet printer speed
- Similar operational cost to an inkjet printer
- Available at an affordable price for anyone

## Benefits

- Equal opportunities (infinite access to any content)
- Braille and tactile content in perfect and personalised quality
- No specialist distributors are required



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## Market

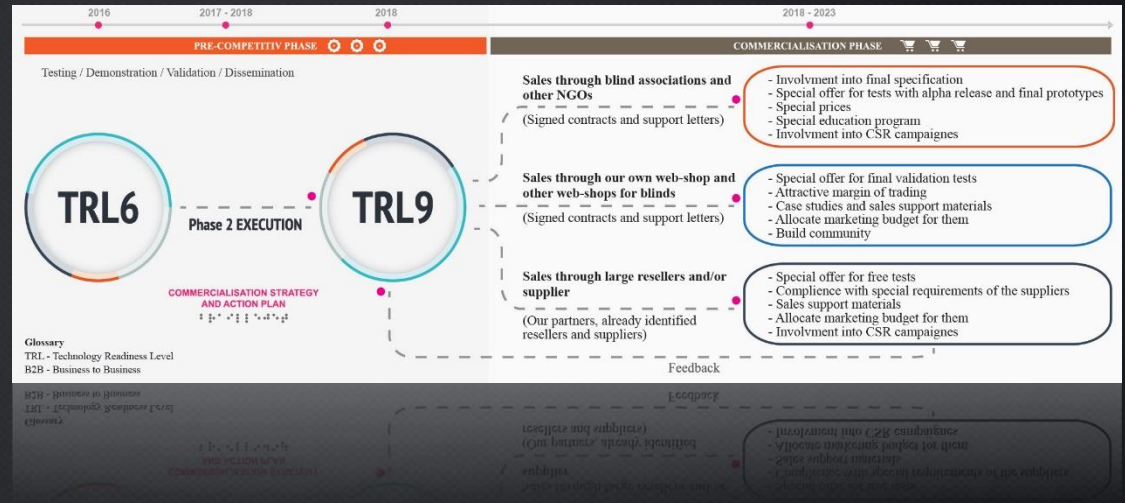
- 285 million potential end users
- worldwide (27 million in Europe)
- Less than 10% of the legally blind people are Braille readers
- Braille and tactile reproduction technologies and contents are very expensive
- Competitors are not suitable for home use (high cost) and require special paper

Technology benchmark	Adjustable Braille size	High resolution tactile graphic printing ability	Ability to convert text	Ability to convert figures	Surface smoothness	Available and operated at a reasonable price
Braille embossers	Limited	Limited	No	No	No	No
Thermoform technology	Yes	Yes	No	No	Yes	No
Text to speech readers	No	No	Yes	No	No	Yes
Tactile monitors	No	Limited	No	Limited	No	No
BrailleJet	Yes	Yes	Yes	Yes	Yes	Yes

Product name	Manufacturer	Main technology		Target market				Price (EUR/unit)	Paper type		
		Embosser	Other	Embossing speed (CPS - characters per second)	Single-sided (S) / Double-sided (D)	Tactile resolution (DPI)	Noise level (dB(A))		Special (sheets per box)	Normal (sheets per box)	Price (EUR/box)
Index Basic-D V4	Index Braille	✓	-	100	D	50	80 (60 with acoustic protection)	3295	✓ (1000)	-	109
Index Everest-D V4	Index Braille	✓	-	100	D	50	80 (60 with acoustic protection)	4195	✓ (1250)	-	60
Phoenix	Enabling Technologies Company	✓	-	50	S	25	N/A	5995	✓ (500)	-	35,35-43,25
Cyclone	Enabling Technologies Company	✓	-	60	S	17	N/A	3495	✓ (500)	-	
Romeo Attaché	Enabling Technologies Company	✓	-	15	S	13	N/A	2295	✓ (500)	-	
Romeo Attaché Pro	Enabling Technologies Company	✓	-	15	S	13	N/A	2495	✓ (500)	-	
BTec 100	Enabling Technologies Company	✓	-	13	S	17	N/A	3995	✓ (500)	-	
Trident	Enabling Technologies Company	✓	-	100	D	17	N/A	4495	✓ (500)	-	
VP Cub	ViewPlus Technologies, Inc.	✓	-	50	S	20	N/A	4295	✓ (500)	-	
VP EmBraille	ViewPlus Technologies, Inc.	✓	-	25	S	17	N/A	1995	✓ (500)	-	
VP Max	ViewPlus Technologies, Inc.	✓	-	60	S	20	N/A	4995	✓ (500)	-	58
VP SpotDot	ViewPlus Technologies, Inc.	✓	(additional colour ink)	50	S	20	N/A	6995	✓ (500)	-	107
VP Premier	ViewPlus Technologies, Inc.	✓	-	100	D	20	N/A	9995	✓ (500)	-	
VP Elite	ViewPlus Technologies, Inc.	✓	-	200	S	20	N/A	19995	✓ (500)	-	
Swell Form Machine	American Thermoform	-	✓	N/A	S	≥600 (but no sense to define the quality in DPI)	N/A	1350 (plus the price of the inkjet printer)	✓ (1)	-	110
BrailleJet	CERC	-	✓	15	S	≥600 (but no sense to define the quality in DPI)	<50	990 (200)	-	✓ (500)	4

# Business Plan

- Our technology is unique
  - Quality & speed
- The cost of our technology is unique
- Our distribution method is unique
  - Use of normal printer distribution channels (both for printer and cartridge)



## Project development timeline

- Prototype was validated in relevant environment (TRL6) in 2014
- SMEI Ph1 was completed in 2015, as a result:
  - Team (consortium) was set up
  - Initial business plan was completed
  - Wide range of relevant organisations (blind associations) were included
  - Patent application started
  - Trademark has been acquired
- SMEI Ph2 was funded in 2016 (started on the 1<sup>st</sup> of October 2016)



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## Process & Experiences

- Ph1 was a useful learning curve
  - Objectives had to be revised
  - Business model had to be restructured
  - Best partners had to be found
- Ph2 needed creativity
  - Gather the information (competition, call topics, buzz words, evaluation criteria, etc)
  - Organise the information (perfect implementation plan, well-structured steps)
  - Present the information (informative, easy to read, visual, etc)
  - Use partners



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## Team

### Partners:

- CERC (H)
- KWSP (UK)
- Alchemie (UK)

### Subcontractors:

- INFOALAP (H)
- Co&Co (H)

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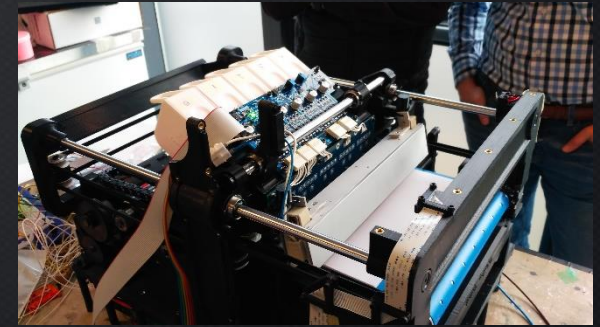
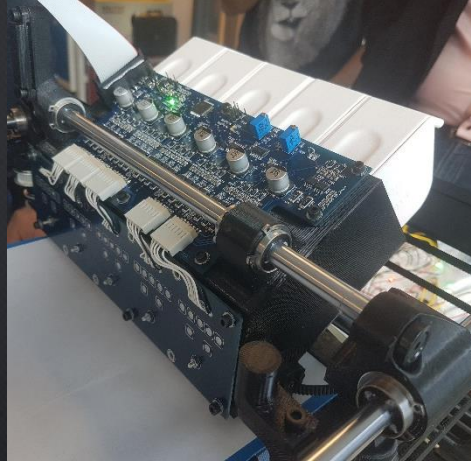
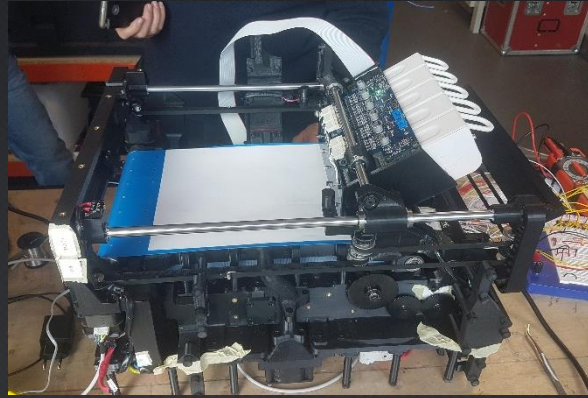
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## Status - Prototype

- The printer head was redesigned completely – nozzles have been included in the cartridge (inkjet model)
- Printing is working, optimisation is in process
- Printing mechanism was designed and built (paper feed, head movement, scanning function)
- HD camera is for scanning (works)
- Housing was designed around the mechanics (building is in process)
- Software has been developed, GUI is being finalised



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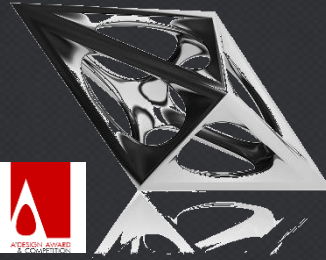
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## Status - Commercial

- Rebranding – b.my.jet
- Regular press releases resulted in interest from blind groups, assistive technology suppliers, alternative applications.
- Conferences ensured more interest
- IP issues hindered the communication (has been resolved)
- Awards:
  - A' Design Silver (1<sup>st</sup> in Concept)
  - IDA Gold (1<sup>st</sup> in Office equipment)
  - 3 more pending (RedDot)
- Exhibitions coming up:
  - ICCHP - Linz
  - LESEK - Budapest



b.my.jet is a new printer currently under development that will enable digitally printed tactile braille and graphics to be produced in the home or office. Offering the ability to improve the quality of life for the 285 million blind and partially sighted people around the world b.my.jet will deliver a new to market desktop printer and scanner to provide on demand production of braille documents and images.

The core technology in the printer offers the ability to create relief patterns that makes digital printing a reality for braille and will allow anything to be printed in a tactile way instantly and at the point of use. The printer is being developed by a European consortium comprising; Hungarian-based Central European Research Centre (CERC), UK digital printing specialist Alchemie Technology and the high performance engineering consultancy KWSP. Backed by the EU research and innovation programme Horizon 2020 SME Instrument the first pre - production printer is planned for launch later in 2017.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 711160.



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## Next steps

- Optimisation & testing
  - Speed & quality
  - GUI
- Validation
  - INFOALAP (HU)
  - Royal National Institute of the Blind (UK)
- IPR finalisation
- Communication
  - Expos
  - Press releases
  - Awards
- Commercialisation
  - Business plan



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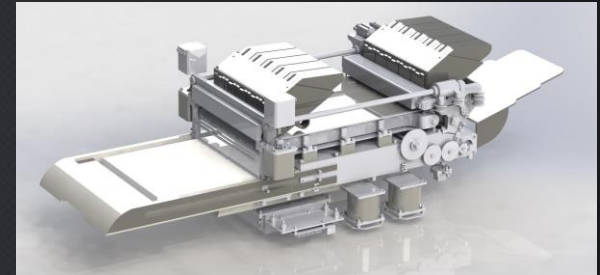
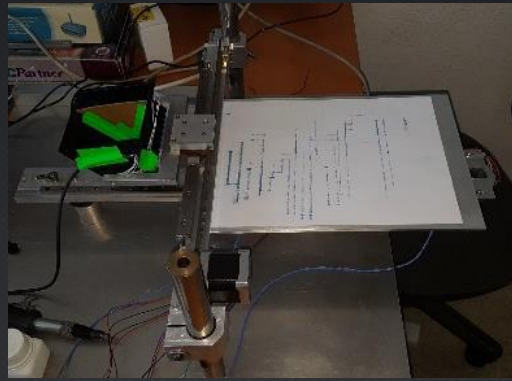
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## Success criteria

- Novel technology
- Huge impact (social as well as economic)
- Complementary team (technical, commercial, design & end user)
- Effective coordination
  - Technical management
  - Financial management (reporting, cash flow, amendment)
- Good communication (especially with EC)
- Other: planning, regular meetings, belief



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Thank you for your attention.