

Smart fenestration system having remote control and management

Short: **Smart Fenestration**

Patent Slogan:
„Smartening up your home“



INVENTORS (TEAM):

Experience, knowledge, wisdom.

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PROBLEM/OPPORTUNITY:

- Energy consumption
- Quality of inside environment
- Security Problem

Producers'/buyer's problem: Companies that are producing “construction furniture” such as doors, windows. They need to care about the sustainability of the building.

- *Energy consumption of the building is too much. Existing construction furniture is increasing this Energy consumption.*
- *They do not have smart management systems (IOT Solutions).*
- *No obligations to adapt smart management systems into construction furniture yet.*

End user's problem:

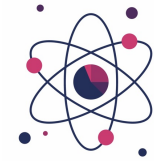
- *Air quality inside – trend topic to be solved. They are not able to measure quality factors of the inside air. They have to open/close the windows/door manually to manage air quality.*
- *Ease of use. – Use of Existing construction furniture is not easy*
- *Security problem in the individual houses.*

Smart fenestration

Saving energy with smart windows – the future of fenestration

Opportunity;

- The popularity of IoT connected devices and smart homes has never been greater, with more and more smart technology prevalent in our everyday lives.
- This interactive technology has now developed within the fenestration industry and one of the latest advances is smart windows.
- One of the biggest influences driving the development of this technology is the growing demand for greater energy efficiency within our homes. This has come from both European political directives to reduce energy consumptions and emissions.



Smart fenestration:

A simple and comprehensive smart home window and door management system is provided by this invention through the use of a smartphone, tablet, or any other mobile device via a web interface from anywhere. By acting autonomously, the system reduces daily costs, increases living conditions, while simultaneously improving the safety of its users.

- **3 most important innovative features** of your solution.
 - built-in sensors
 - autonomous operation
 - reliable and powerful communication connectivity

TRL: 3-4

FEATURES/COMPONENTS	INNOVATIVE ASPECTS	BENEFITS FOR THE PRODUCERS	BENEFITS FOR END USERS
Sensor Wireless technology	<ul style="list-style-type: none"> ·Extended area for the better communication ·Smart management systems ·Built-in sensors ·Autonomous operation ·Reliable and powerful communication connectivity 	<ul style="list-style-type: none"> ·They can provide added value products for their clients by solving the problems of energy consumption, inside air quality and security. 	<ul style="list-style-type: none"> ·Low Energy consumption (15% decrease) ·Better Usability of product ·Better Air quality inside ·No Security problem
Communication system between components (secret sauce)			

VALUE PROPOSITION:

- Benefits that patent will provide for the client company (the licensor) or the end user.

End user:

- Energy saving
- Higher security
- Greater comfort
- Better Air Quality

Producers:

- Technological modernization
- Competitive advantage
- Greater added value

Society:

- Reduction of the ecological burden
- Better living conditions

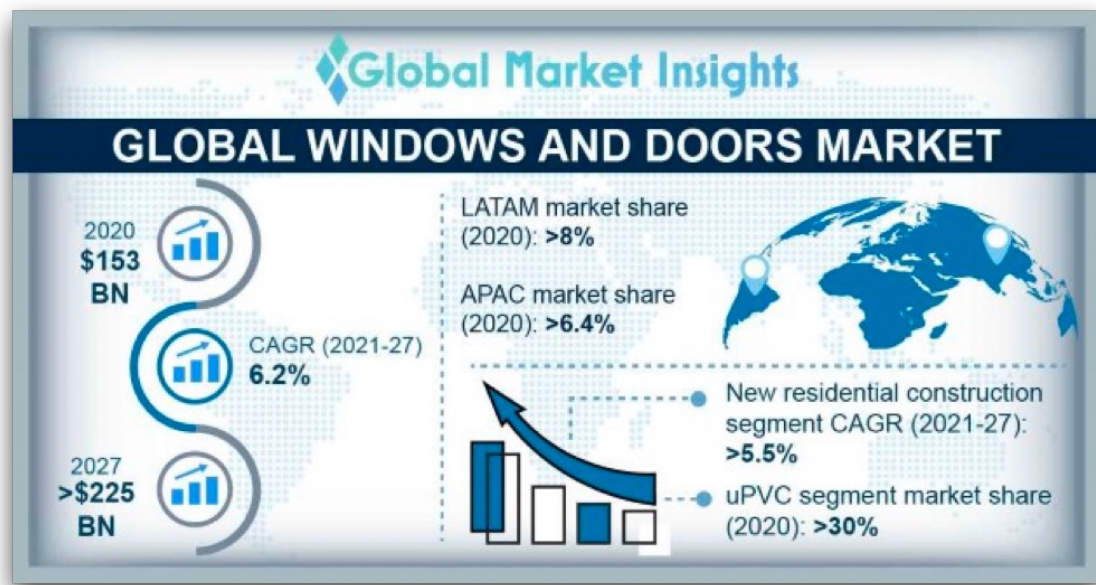
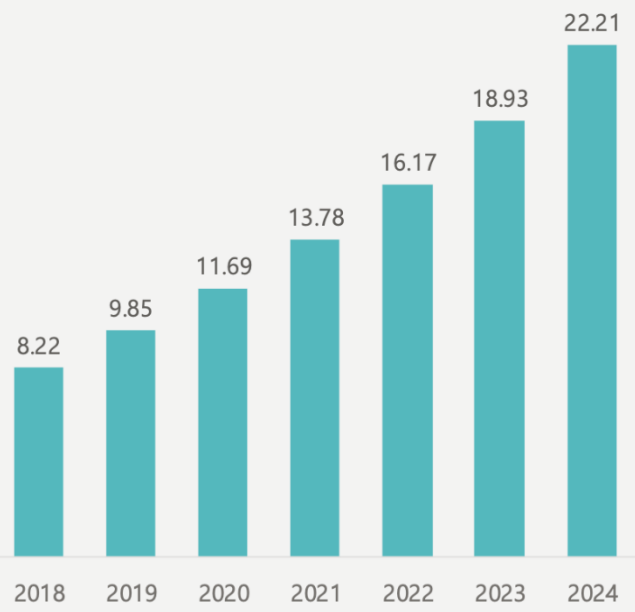
TARGETED CUSTOMER/USER SEGMENT:

- Companies that are producing “construction furniture” such as doors, windows.
 - *Willing to update their product portfolio with IoT and thus increase added value and competitive advantage.*

MARKET SIZE/GROWTH:

SMART BUILDING MARKET

Revenue in USD billion, Infrastructure Management System, Global, 2018-2024



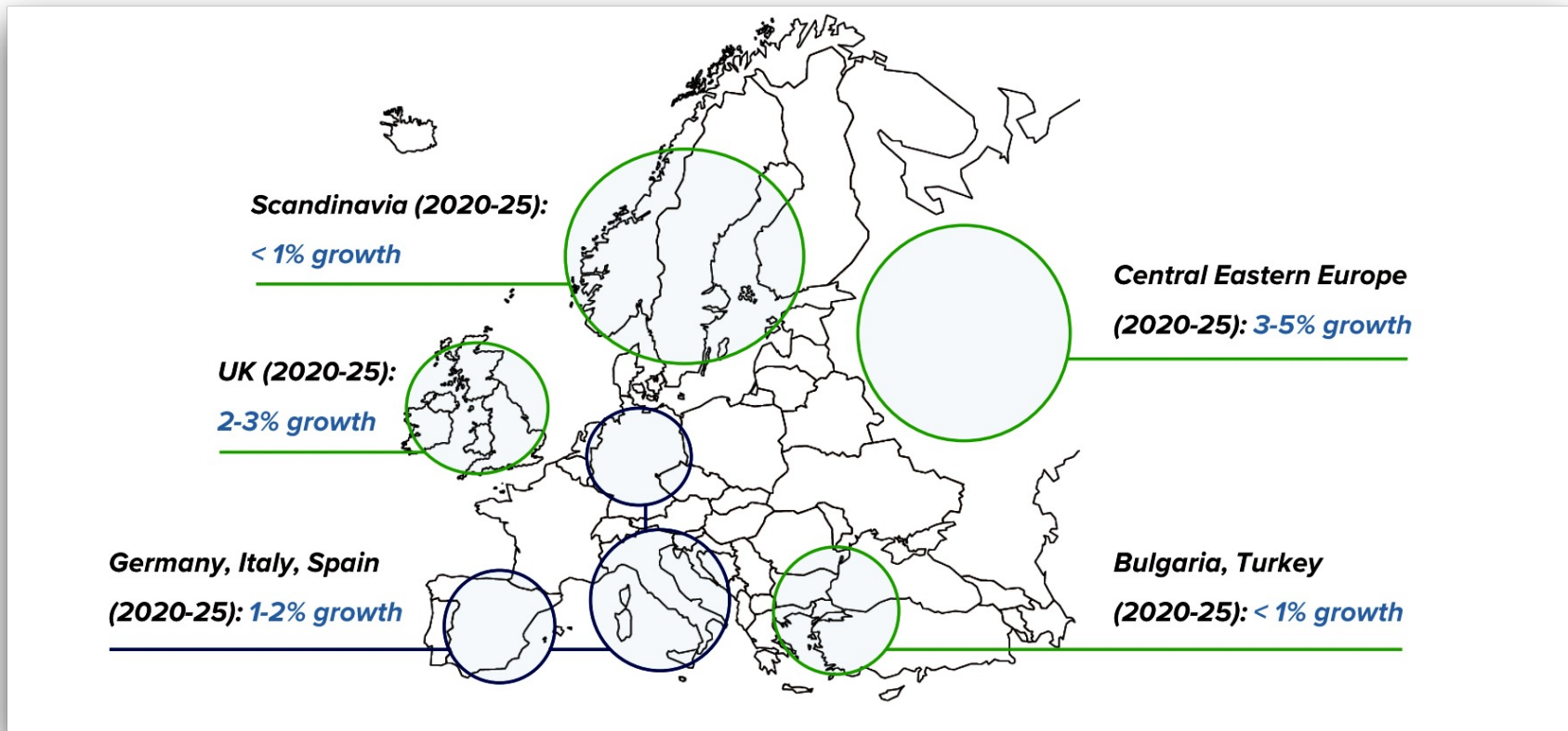
Global Market Insights

GLOBAL WINDOWS AND DOORS MARKET

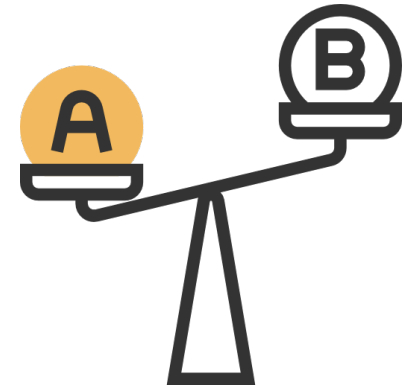
- 2020: \$153 BN
- 2027: >\$225 BN
- CAGR (2021-27): 6.2%
- LATAM market share (2020): >8%
- APAC market share (2020): >6.4%
- New residential construction segment CAGR (2021-27): >5.5%
- uPVC segment market share (2020): >30%

MARKET SIZE/GROWTH:

European windows and doors market is growing with %3-5 annual growth rates.



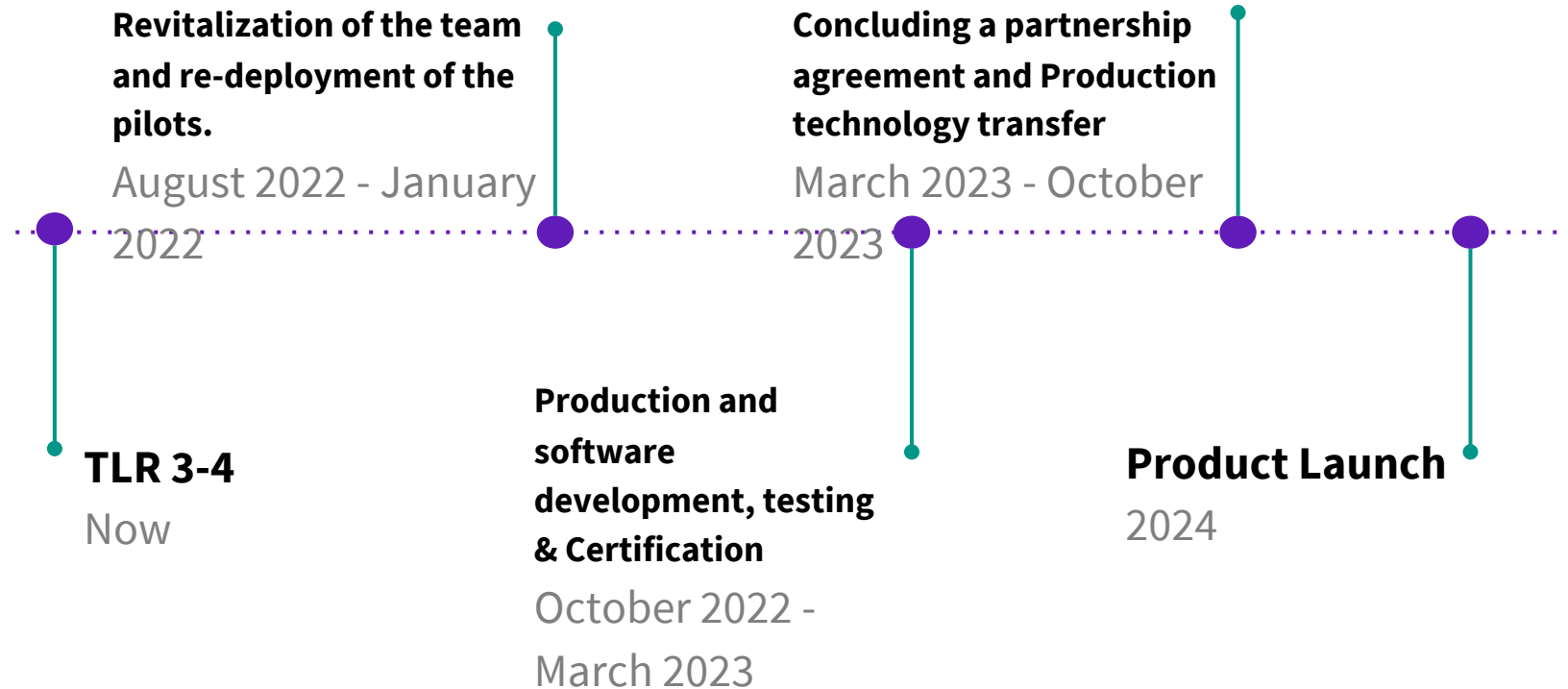
COMPETITORS:



Our invention

	Velux	Fakro	Marvin	SmartFenestration
Advanced sensors	NO	NO	NO	YES
Wireless communication	YES	NO	YES	YES
Autonomous Operation	YES	NO	NO	YES
Connectivity to the 3rd party security systems	NO	NO	NO	YES
Energy self-sufficiency	NO	NO	NO	YES
Connectivity to the Smart Home	In part	NO	In part	YES

DEVELOPMENT NEEDS/ROAD MAP:

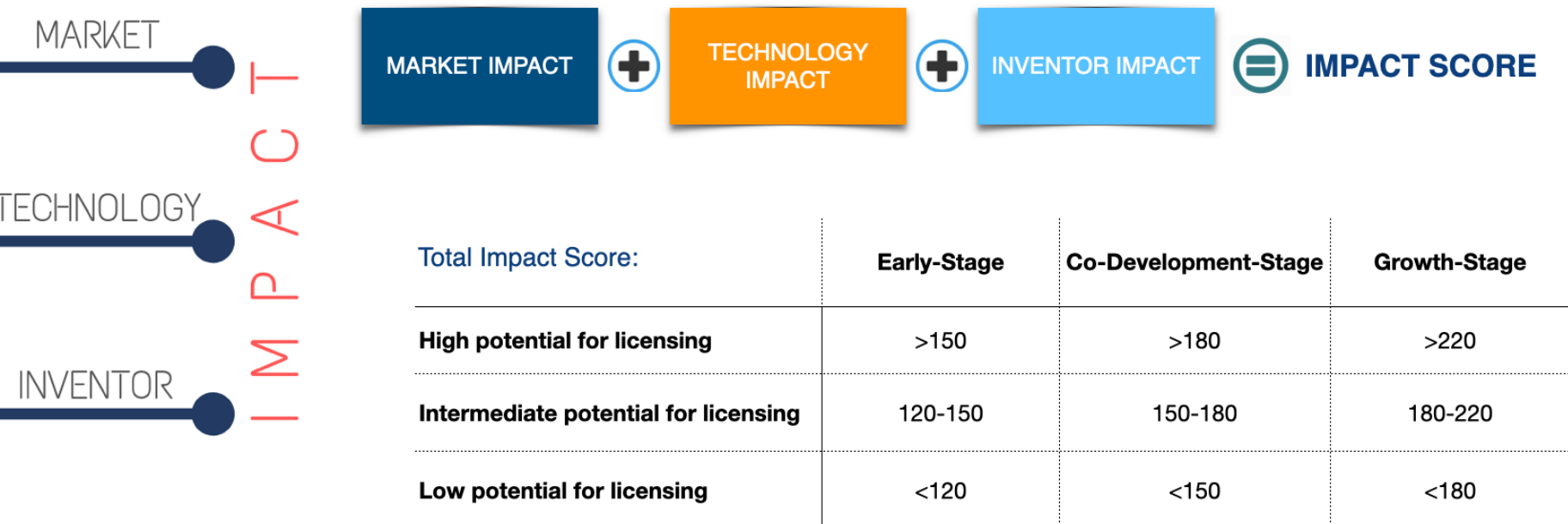


COMMERCIALIZATION MODEL



- Patent Licensing
 - *Exclusive/non-exclusive*
- Patent Assignment
- Co-development to increase TRL
- Partnership for test/analysis

PATENT SCORE:

We used patent scoring matrix to understand the the power of invention in terms of market attractiveness, technology potential and team profiles. These 3 main criteria has different sub-dimensions that can be scored according to the stage of the technology (Explore, Validate and Launch).



PATENT SCORE:

VALIDATE Phase	
MARKET	71,3
TECHNOLOGY	52,6
TEAM	48,4
PATENT SCORE 	172
PATENT SCORE % 	70%

PATENT SCORE			
Investment Level	EXPLORE Phase	VALIDATE Phase	LAUNCH Phase
High Potential	>150	>180	>220
Medium Potential	120-150	150-180	180-220
Low Potential	<120	<150	<180

PATENT SCORE %			
Investment Level	EXPLORE Phase	VALIDATE Phase	LAUNCH Phase
High Potential	>%60	>%70	>%85
Medium Potential	%45-60	%60-70	%70-85
Low Potential	<%45	<%60	<%70

Medium Potential for Licensing