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Factors affecting a successful introduction and longevity of innovative systems and technologies in forest biomass harvesting

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Deliverables

D6.1: Technological and economic barriers to introduce and apply innovations in forest energy sector

D6.2: Development potential of inventions in forest biomass harvesting

D6.3: Plan for promoting the demonstrated systems and technologies for further development

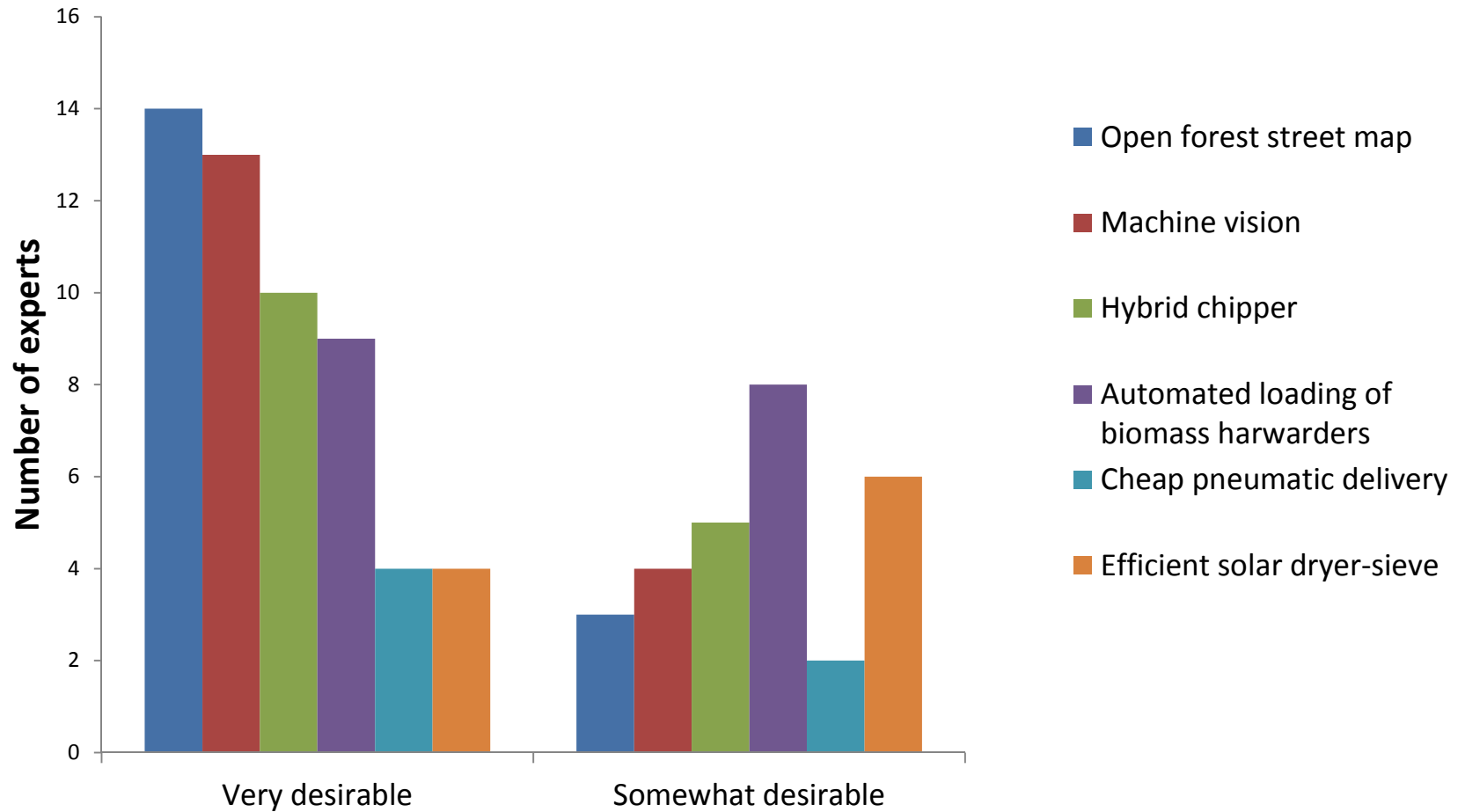
RESULT HIGHLIGHTS

Company and researchers views

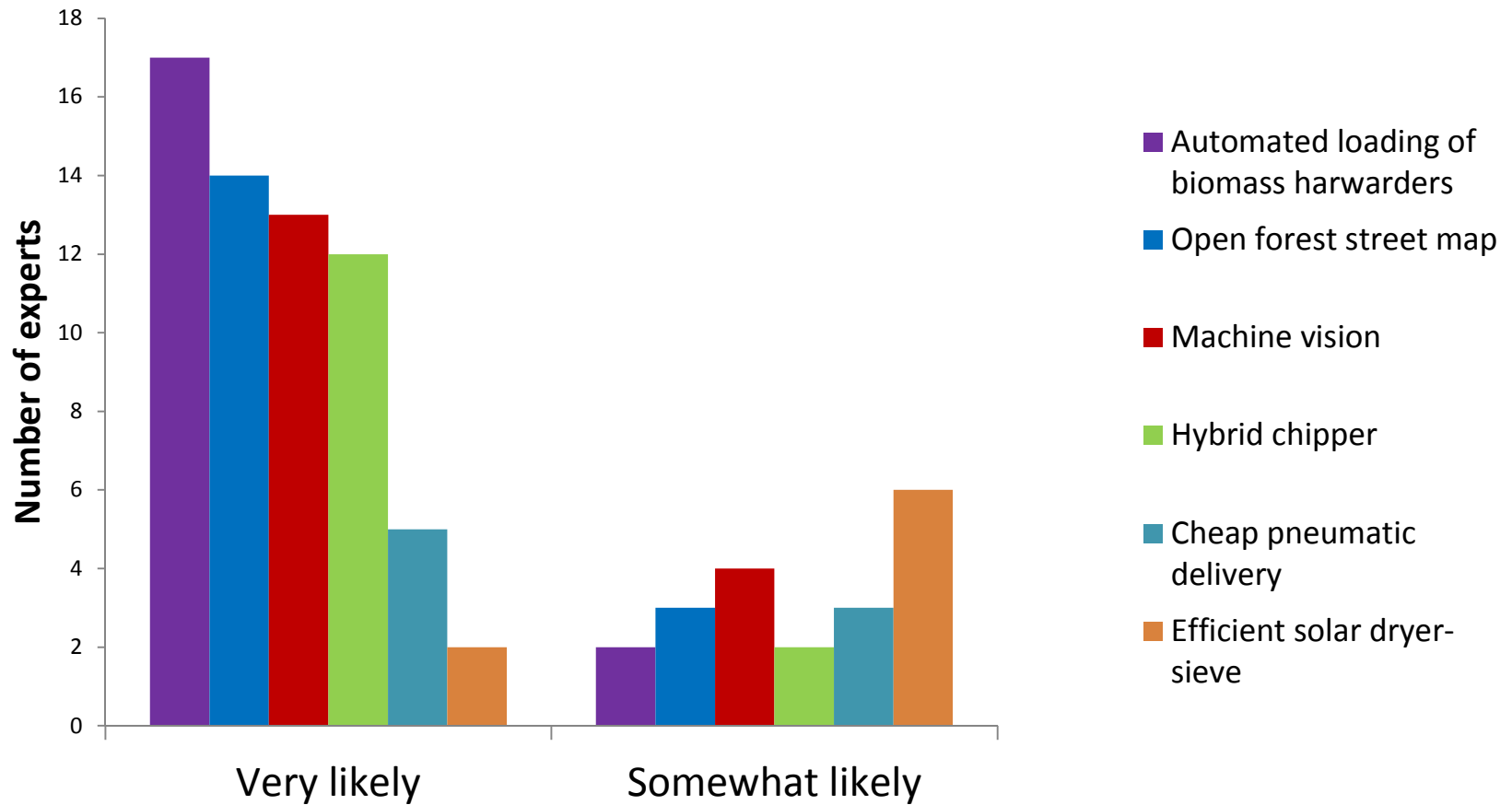
- Companies assess the performance of an innovation using specific criteria that are related to customer relations, product development process, financial performance, and company benefit.
- The most important barrier for innovation was lack of financing, especially for new high-risk projects.
- Drivers for innovations are tied to competitiveness (to stay on top, offer the best products, being one step ahead of competitors).
- Successful innovations: increase productivity of the operations, reduce the cost and are flexible

Failed innovations: are poorly marketed, require complicated logistics, can only be used in specific conditions and have a low productivity.

Desirability of adopting technologies



Probability of adopting technologies



Identified barriers to development and implementation of innovations

- **Barriers from the supply side (manufacturers face when developing/introducing an innovation)**

- Cost and financing issues
- Lack of engineers or capacity
- Lengthy, high-risk process
- Testing
- Regulations
- Lack of good quality components
- Own protection

- **Barriers to implement and use innovations**

- High operation cost or low productivity
- Low productivity in unsuitable conditions
- Lack of flexibility
- Competition with existing equipment
- High investment cost
- Maintenance issues
- Demand for final product and product quality
- Marketing
- Existing logistic chains do not favour the innovation
- Complicated logistics

Measures to overcome detected barriers

Barrier	Measure	Who
Cost and financing issues	Proper allocation of resources for product development and improvement of the business profitability	M
	Cooperation with other firms within horizontal structures in industrial districts	M
	Develop realistic business plan and market prospecting for the innovation	M
	Ensuring favourable financing instruments (e.g. affordable and secured loans)	PM
	Company focuses its production in some products from which they could receive increased profit	M
	Decrease manufacturing costs	M
	Increase target markets by segmentation	M
	Other measures: ... (propose)...	
Lack of engineers or capacity	Cooperation with scientists and educational institutes and universities	M
	Make company more attractive to skilled engineers, move to bigger cities, improve working conditions, etc.	M
	Cooperation/fusion with other manufacturing companies (automobile, agricultural equipment, etc.)	M
	Other measures: ... (propose)...	
Lengthy, high-risk process	Strategy evaluation. Risk/Benefit assessment to avoid extremely high risk	M
	Find out how markets are developing and future trends	M
	Count on risk capitalists	M
	Cooperation with customers (forest companies) to ensure product sales, feedback for further development, etc.	M
	Subsidies or grants to compensate high-risk investments, particularly for small innovative companies	PM
	Other measures: ... (propose)...	
Testing	Cooperation with scientists and educational institutes and universities	M
	Cooperation with customers (forest companies) in those regions where equipment is potentially sold	M
	Other measures: ... (propose)...	
Regulations	Involvement in lobbying organizations in order to facilitate to reach standards	M
	Other measures: ... (propose)...	
Lack of components	Involve component suppliers in the development process of a new innovation	M
	Other measures: ... (propose)...	
Knowledge leaks (protection)	Search for patents to check that nobody else has come to that idea before	M
	Keep the innovation secret as long as possible to avoid illegal copies	M
	Strengthen confidentiality measures	M
	Other measures: ... (propose)...	

To Manufacturers

- Proper allocation of resources for product development and improvement of the business profitability
- Find out how markets and trends are developing
- Cooperation with other firms within horizontal structures in industrial districts, with customers (forest companies) to ensure product sales, feedback for further development and with scientists, educational institutes and universities
- Ensuring favourable financing instruments (e.g. affordable and secured loans)
- Subsidies or grants to compensate high-risk investments, particularly for small innovative companies

To Users

- Collaborate with existing dealers and service networks and secure expert help provided by the manufacturer
- Demonstration actions to show and promote equipment
- Choose a machine that is properly adapted to the site (size of trees, topography etc.) with a good service deal and reliable service network
- Evaluate if – through small low-cost changes can increase performance
- Contact with contractors and forest companies
- Ensure enough working hours for expensive machines by good planning and management
- Long term contracts that could ensure realistic prospects for profitable business

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Thank you!

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