BroadVoice

Broadening the spectrum of employee voice
in workplace innovation

Direct Worker Participation for Workplace Innovation in the Manufacturing Industry Across Different EU Countries

Advancing Industry 5.0:
Building Skills, Enhancing Employee Voice and Driving Workplace Innovation

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Contents…

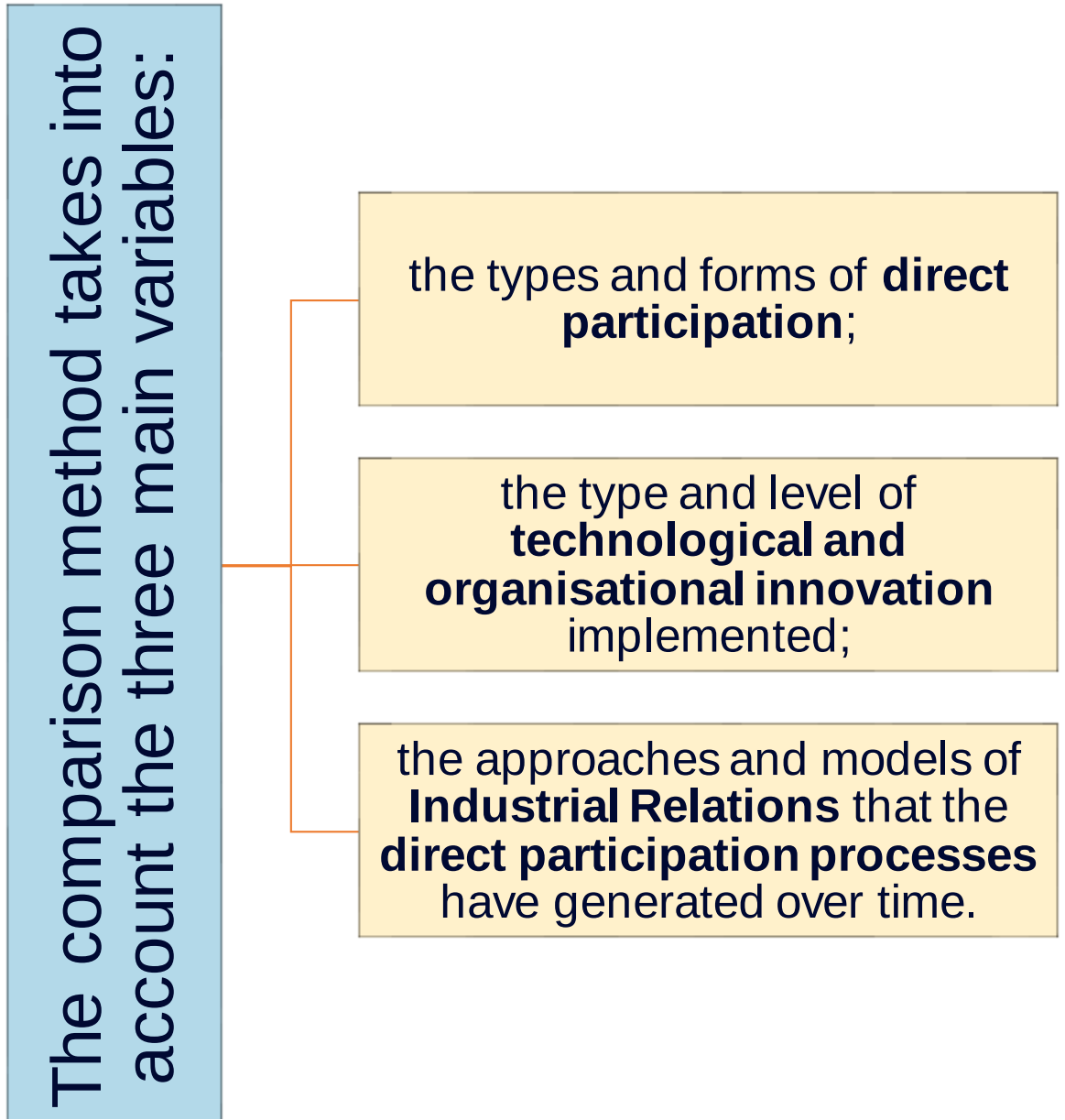
Introduction

This presentation aims to showcase the results of a comparison among **14 manufacturing companies' cases** studied by the **BroadVoice project**, as outlined in the **national reports**.

Workplace innovation, both from a technological and organisational point of view, is an objective of **direct participation** in all the studied cases.

The focus on manufacturing companies is highly relevant for **corporate innovation policies**. It provides better insight into the relationship between **technological innovation**, **new organizational forms**, and **direct participation** in **different industrial relations contexts**.

Comparison Methodology



The companies analysed: structural data 1/2

From the point of view of **industrial sectors and products**, most companies belong to the **metallurgical** and **mechanical** sectors (Mining, Automotive, Machinery, Appliances) and to the **chemical-pharmaceutical** sector (Chemistry, Tyres, Pharmaceuticals, Painting) .

There are no companies in the **agri-food, fashion, furniture**, or **energy** sectors.

In terms of **company size**, large companies (over 500 employees) make up half of the sample. Small and medium-sized companies (up to 500 employees) make up the other half.

In summary, **large and medium-sized companies** are more represented than the European average.

The companies analysed: structural data 2/2

The most **unionised companies** are predominant.

- In 6 out of 14 cases, union membership exceeds 50%; in the others, it ranges between 30 and 40%.
- These figures are higher than the European averages.
- They are linked to the **Project's choice** to study cases where **consolidated industrial relations** are more prominent.

6 companies report having a **dual channel of representation** (Works Council and Union), while 8 have **only one channel** (Union), which is sometimes national only, and sometimes both local and national.

Table 1 - Structural data of Manufacturing Cases

Legend: **Type of Representation 1** Single Channel; 2 Double Channel Work Council + Union)

Country	#	Case	Sector	Employees	% Women	Type of Rep.	%Union Density
BULGARIA (BG)	1	Copper company	Mining	1004	25%	2	70%
	2	Mechanical eng.	Machines	720	9%	2	-
IRELAND (IE)	3	Kirchhoff Automotive	Automotive	42		1	100%
	4	FSW Coatings	Painting	160		1	25
	5	Aughinish Alumina	Metallurgical	475		1	78
	6	Saica Pack	Paper industry	92		1	80
ITALY (IT)	7	Electrolux	Appliance	600	40%	1	35
	8	ROLD	Appliance	229		1	15
NETHERLAND (NL)	9	Solvay	Chemical	85		2	38
	10	Pharma	Pharmaceutical	1400		2	10
SLOVENIA (SLO)	11	Tire	Tyres	1800		2	67
	12	Slovenia pharm.	Pharmaceutical	3500		2	-!
SWEDEN (SE)	13	Workshop company	Metallurgical	110		1	60
	14	Mine company	Mining	900		1	90

Table 2 - Characteristics of the 14 Manufacturing Cases

(Sectors, employees, No. of Representation Channels)

Sectors	N°	%	Employees	N°	%	Type of representation	N.
Mining Metallurgical	4	29	Up to 100	3	21	1 Channel (Union)	8
Car, Automotive	2	14	100 – 500	4	29	2 Channels (Union + W.Council)	6
Appliance	2	14	500 -1000	3	21		
Pharmaceutical Chemistry	3	21	More than 1000	4	29		
Painting	1	7		14	100		
Tyres	1	7					
Packaging	1	7					
TOT	14	100					14

Origin of the participation process (Figure 1)

In all the cases examined, **direct participation** emerged within a change process aimed at **enhancing production performance** and **fostering technological and organizational innovation.**

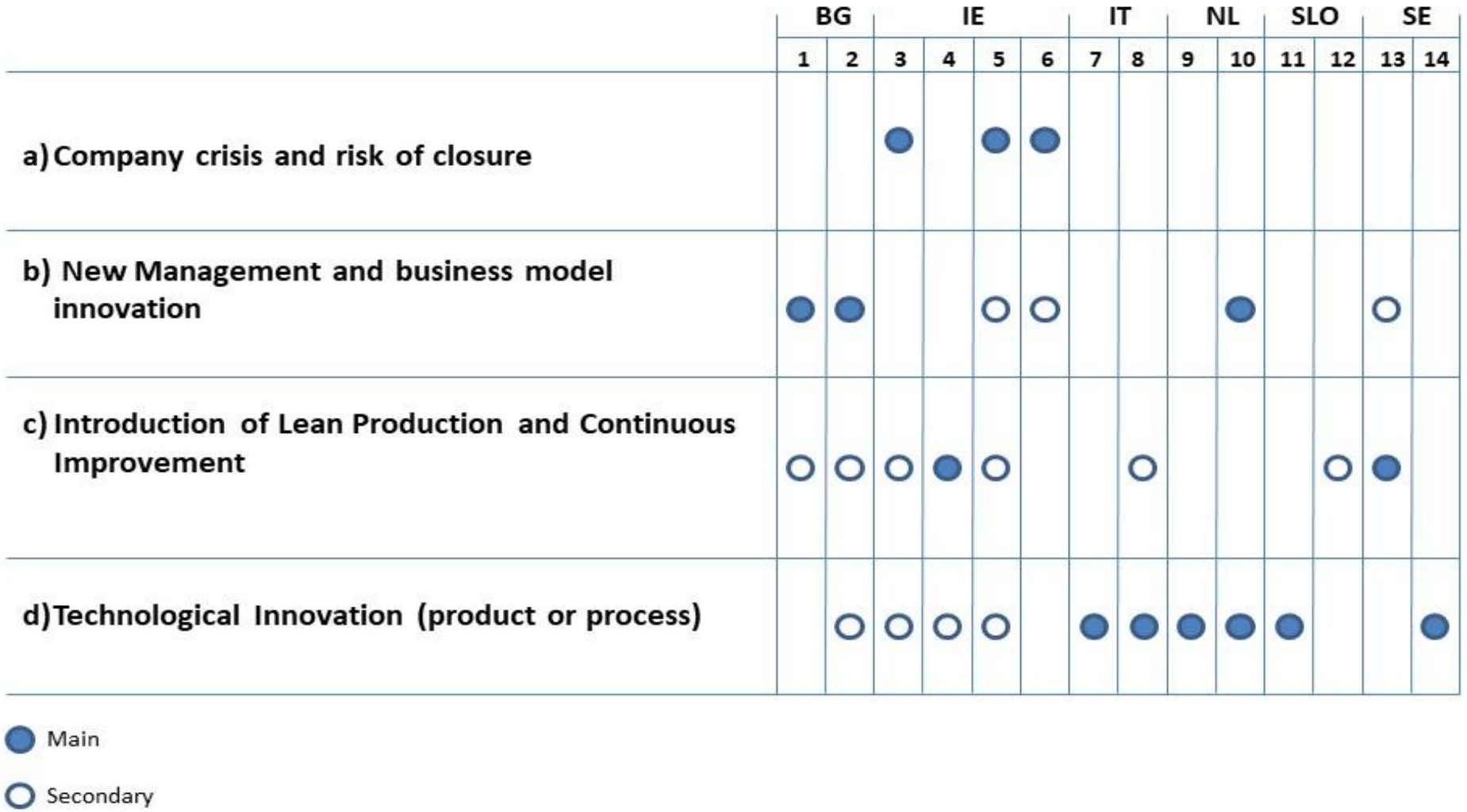
In **3 cases,** a **market crisis** was leading to the **possible closure** of the company.

In **3 cases,** a **change of ownership** brought **in new management** with challenging objectives and a drive to **change corporate culture and business model**.

In **6 cases, technological innovation** – either in product or processes - was **the main goal** to be achieved **through direct participation** and **some form of Lean production.**

In **2 cases,** the choice of **innovation** favoured an **organisational change centred on Lean production.**

Figure 1 Direct worker participation according to its scope



The development of the project path (Figure 2)

Figure 2 attempts to provide a synthetic yet articulated representation of the different paths.

The different case histories are grouped into 6 successive phases, from the start-up, to development, to final impacts, and to future prospects.

The paths studied range from a minimum of 3-4 years to a maximum of 25-30 years.

Figure 2 Development of the direct participation process: Phases, Actors, Impacts, Future Prospect

PHASES	FEATURES	BG		IE				IT		NL		SLO		SE	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1) Initiative	Management	●	●					●				○	●	●	●
	Work Council		○							●	●		○		
	Company-Union Agreement			●	●	●	●	●	●					○	○
2) Pivotal Role	Management	●	○					○		○	○	○			
	Work Council	○	●						○	●	●	●			
	Trade Union and External Expert			○	●	●	●							○	○
	Steering Commitee			●	●	●	●	●	●					○	●
3) Change Achieved	Joint training			○	●	○	○	○						○	●
	Continuous Improvement	○	○									●	○		○
	Initial Lean	●	●										●		
	Advanced Lean (Partecipated)			●	●	●	●	●	●	○	●			●	
	New Technologies			●	○	○	○	○	●	●	○	○	○	○	●
4) Impacts	Company productivity	○	○	○	○	○	○	●	●	○		○	●	●	●
	Quality of service			○	○	○	○		○	○					
	Quality of work (autonomy)			●	●	●	●	○		○	○		○	○	
	Ergonomics and welfare	●	●	○	○	○	○		○			○			●
	Digitalisation	○		●	○	○		●		●	●	○		○	
5) Future Prospect	Istitutionalisation	●	●	●	●	●			●	●			●	●	●
	Maintenance							●			●	●			
	Stop						●								

● Main

○ Secondary

Direct participation and technological-organisational innovation (Figure 3)

The map in Figure 3 aims to explore the **relationship between technological-organisational innovation and direct participation**.

Figure 3 is constructed with **direct participation on the vertical axis** and **technological-organisational innovation on the horizontal**.

An initial general categorisation of these variables assumes a **progression of participation from weak to strong**, and of technological innovation from **traditional automation** to applications of **Artificial Intelligence**.

Direct participation and technological-organisational innovation (Figure 3)

Legend 1 - Gradation of types of technological-organisational innovation

Incremental -Traditional Automation	• Traditional automation and early-stage digital technologies (2.0 and 3.0) Initial lean as a toolkit (Quality, inventory reduction, work on order)
Incremental - Advanced Robotics	• Automation and advanced robotics, recent digital technologies (4.0), Initial Lean (toolkit) but accompanied by initiatives for direct involvement of workers
Radical tecno-centric - Digital 4.0	• Digital technologies 4.0 spread with advanced robotics and evolved Lean (autonomous teams, structured suggestion system, total quality)
Radical human-centric - Digital 5.0 and A.I.	• Digital technologies 5.0, with a human-centric approach, application of Artificial Intelligence, advanced Lean, with widespread participation

Direct participation and technological-organisational innovation (Figure 3)

Legend 2 - Degree of direct participation

Weak Initial	• Very limited breadth and depth, e.g. top down information, surveys, unilateral initiatives, top down welfare. Difficult dialogue between HR and workers
Weak Limited	• Limited breadth and depth e.g. occasional and feedback-free reporting, limited job autonomy, occasional and one-sided meetings between managers and workers, top-down corporate information
Strong Localized	• High depth, but limited breadth. For example: cross-functional improvement groups on the topic, suggestions with feedback but with a poorly structured system, many reports on safety and missing, autonomy on the job, quality and safety, occasional co-design
Strong Widespread	• High breadth and depth. For example: suggestions with structured and widespread feedback, widespread formal team work, high autonomy on the job, systematic co-design, community of practices.

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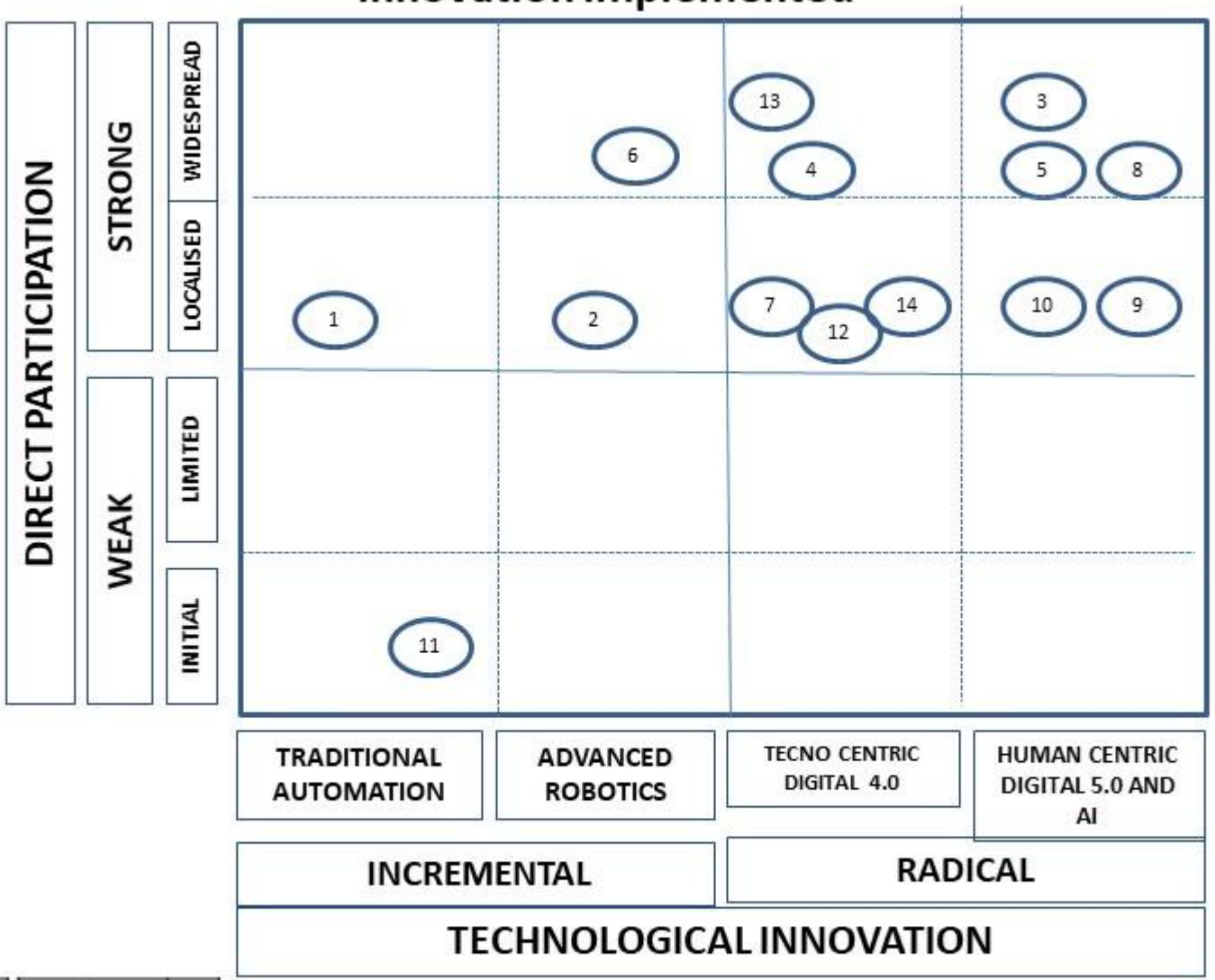
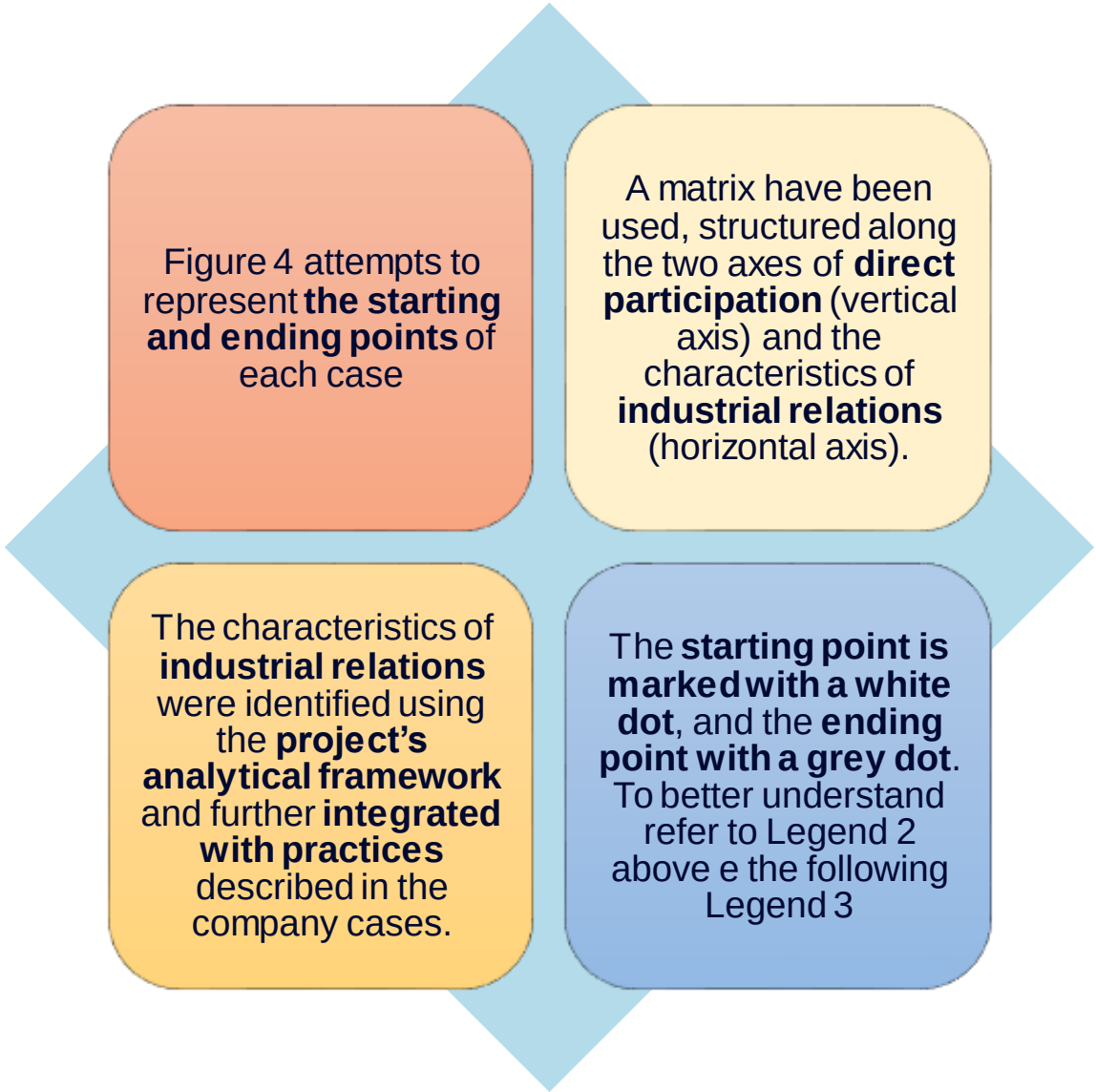
Figure 3 Direct participation and type of technological innovation implemented



BULGARIA (BG)	1
	2
IRELAND (IE)	3
	4
	5
	6

ITALY (IT)	7
	8
NETHERLAND (NL)	9
	10
SLOVENIA (SLO)	11
	12
SWEDEN (SE)	13
	14

Relationship between industrial relations and direct participation (Figure 4)



Relationship between industrial relations and direct participation (Figure 4)

Legend 3 - Approaches to representation and industrial relations

Bipartite (Adversarial)	• Weak role of Representation. Information and defensive agreements prevail in times of crisis. Weak union initiative in contexts of opposition
Hrm (Promoted And Shaped By Management)	• Innovative personnel policies focused on worker involvement even without the Union. Agreements on wages, hours and welfare. Representation is not directly involved in Direct Participation, the two lines are separate
Hybrid (Cooperative)	• Personnel policies favorable to the involvement of the Union in Direct Participation. The agreements provide for joint commissions and other forms to share participation practices. Traditional agreements are enriched by the participation theme
Democratic (Partecipatory)	• The agreements provide for systematic participation of the representation in the management and in the practices of direct participation. In some cases also in the strategic choices of the company

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Relationship between industrial relations and direct participation (Figure 4)

In most cases (10), **radical innovation is accompanied by forms of strong participation**, with significant differences.

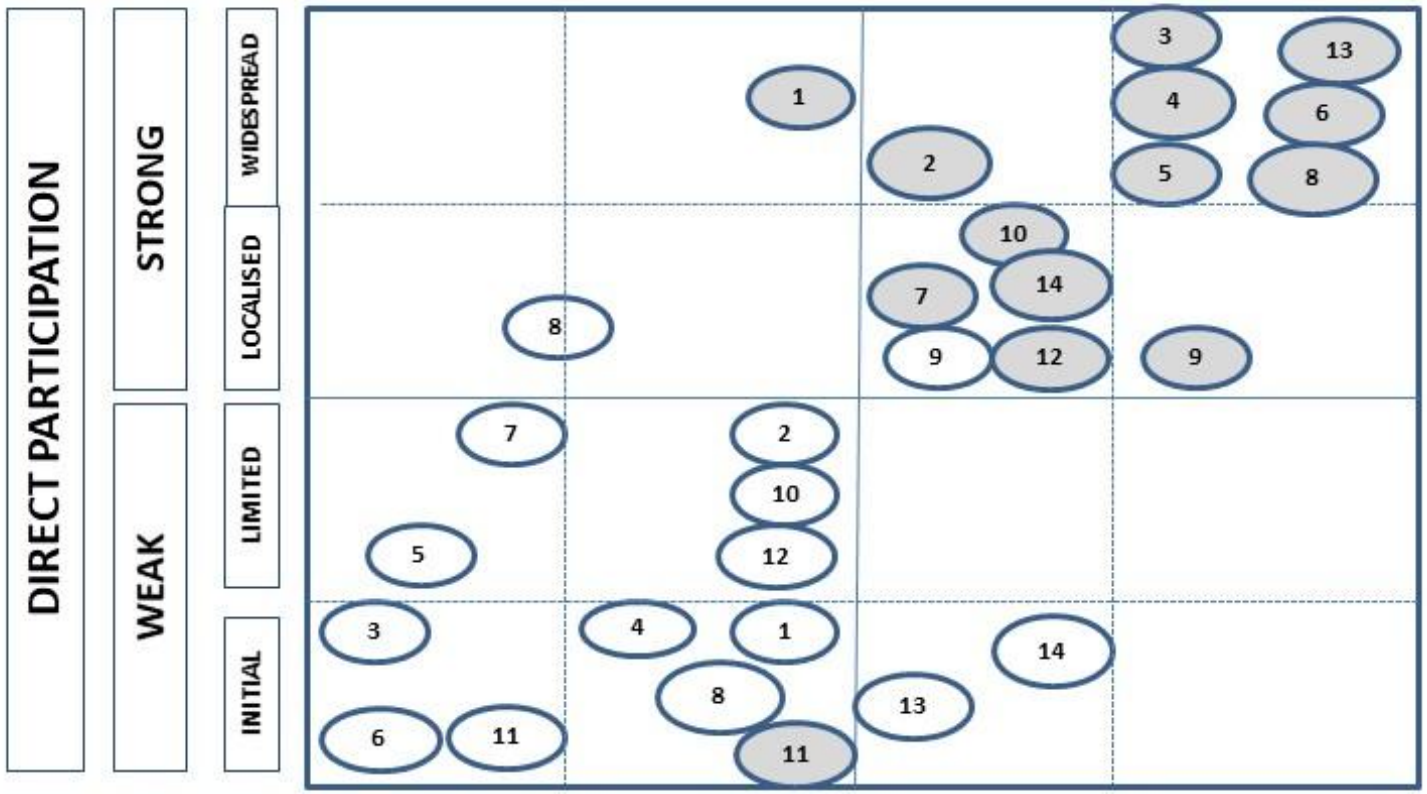
The 5 **most advanced cases** (first column on the right) manage to **combine Digital 5.0 and AI with the strongest and most widespread forms of direct participation**.

The 5 cases which involve **technological innovations more typical of Digital 4.0** type (second column from the left), display **both widespread direct participation** and more localised participation in specific Areas or Departments. This suggests that **different paths and combinations of innovation and participation are possible.**

In the 3 cases (upper-left quadrant), **radical technology is not a necessary condition to strong direct participation**. Participation can also develop along independent and separate lines.

There is just **one case** in which the process **has remained at an initial stage**.

Figure 4
Direct Participation and Industrial Relations: Changes driven by Direct Participation (beginning to end)



BULGARIA (BG)	1
	2
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ITALY (IT)	7
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NETHERLAND (NL)	9
	10
SLOVENIA (SLO)	11
	12
SWEDEN (SE)	13
	14

Relationship between industrial relations and direct participation (Figure 4)

A first group (radical leap cluster) consisting of cases 3, 4, 5, 6, 8, and 13 started from the lowest levels (bottom left) but then reached the highest quadrants (top right).

A second group (incremental leap cluster) consists of cases 7, 10, 12 and 14. It started from intermediate quadrants and reached higher but still intermediate quadrants. This is the group where there was a good investment but the objectives and the change were closer to continuous improvement and innovation managed by the company.

There are two smaller groups (linear growth cluster) that have grown only in one dimension: Case 9 has grown only in the technological dimension, cases 1 and 2 only in the participatory dimension. They demonstrate that change achieves greater results if there is close synergy between technology and organization.

Conclusions…

Relationship between technological innovation and organizational innovation

- the analyses largely confirm that a joint and connected management (joint design) of the two processes certainly improves the final results and facilitates the success of the two investments.

Parallel growth between technological-organizational innovation and Direct Participation

- the comparison seems to confirm a notable positive synergy. The greatest difficulty is perhaps in changing the company culture and management;

Relationship between approaches to industrial relations and technological and organizational innovation

- the correlations seem more complex, more difficult and less evident.

Conclusions…

Two types of considerations can be made with respect to the variables identified by the project.

As for the **relationship between Direct Participation and Industrial Relations**, the cases show that the institutional context and the approach to Industrial Relations play a very important role.

As for the **relationship between Innovation and Direct Participation**, from the cases, the importance of joint and participatory design proposals emerges.

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Project Consortium

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