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WOOD FOR THE FUTURE: INTEGRATING SUSTAINABILITY ACROSS INDUSTRIES

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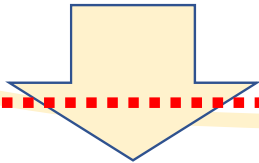
**INNOVATION ACTIVITY IN WOOD-BASED INDUSTRY – EUROPEAN UNION AND
CROATIAN PERSPECTIVE**

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INNOVATION ACTIVITIES/INNOVATION



CHARACTERISTICS:

A key driver for every business success of a single business unit ... the industry as a whole ... the overall economy of a country.

Whether innovation is related to product, product process, or business activity, it has been classified into three categories: **PRODUCT INNOVATION, PRODUCTION PROCESS INNOVATION, and BUSINESS INNOVATION.**

Given the stage of a 'new' in a product, business or production process: **RADICAL INNOVATION AND INCREMENTAL INNOVATION.**

The main characteristic of all innovations is to be implemented.

There are many interpretations explaining innovation . . . the most common interpretation ...
development of new or improved products, processes and business ... is the result of company innovativeness



MATERIALS AND METHODS

- secondary data from **the Eurostat database** were used - the Community Innovation Survey (CIS)
- Data were presented at an aggregated level by **countries, years and innovation activities**: C 16 – Wood processing and C 31- Furniture manufacturing (according to the NACE classification)
- The analysis covers data from 2016 to 2022; even years
- Analyzed indicators were:
 - a) Innovation activity;
 - b) In-house research and development;
 - c) External R&D;
 - d) Income from innovation and
 - e) Types of innovation



RESULTS

a) Innovation activity EU and Croatia – all NACE, manufacturing, wood processing and furniture manufacturing

		EU -27 (No.of Companies)	Croatia (No. of Companies)	share of CRO in EU (in %)
2016	all economic activities	270.273	2.211	0,8
	C	141.655	1.091	0,8
	C 16	4.291	66	1,5
	C 31	4.662	58	1,2
2018	all economic activities	190.848	1.480	0,8
	C	100.262	757	0,8
	C 16	2.701	48	1,8
	C 31	3.138	43	1,4
2020	all economic activities	385.852	4.148	1,1
	C	177.462	1.954	1,1
	C 16	6.349	151	2,4
	C 31	6.114	97	1,6
2022	all economic activities	172.599	1.088	0,6
	C	86.301	492	0,6
	C 16	1.620	26	1,6
	C 31	2.528	32	1,3

- between 2016 and 2022, the **total number of innovative companies** in both the EU-27 and Croatia **fluctuated**
- Croatia's share of EU totals remaining consistently low, **between 0.6% and 1.1%**
- in 2020, regarding innovation activity Croatia recorded its highest share of EU companies in C16 at **2.4%**



b) Investment in internal research and development (in-house)

Year		Investment in in-house R&D: share of CRO in EU (in %)	Contract R&D: share of CRO in EU (in %)
2016	all economic activities	0,64	1,05
	C	0,60	0,86
	C 16	0,94	0,69
	C 31	1,04	2,00
2018	all economic activities	0,48	0,75
	C	0,42	0,63
	C 16	0,70	1,60
	C 31	0,67	0,28
2020	all economic activities	0,78	1,00
	C	n.a	0,92
	C 16	n.a	1,03
	C 31	n.a	2,86
2022	all economic activities	0,59	0,72
	C	n.a.	0,63
	C 16	n.a.	1,22
	C 31	n.a.	2,26

- Croatia's share in the EU's share in in-house R&D investments was the highest in 2020 — **0.78%**
- The share of Croatian investment in in-house R&D in
C 16 = 0,94%
C 31 = 1,04 % (in 2016)
- The share of Croatian investment in contract R&D
 - C 16 = 1,22%**
 - C 31 = 2,26 % (in 2022)**



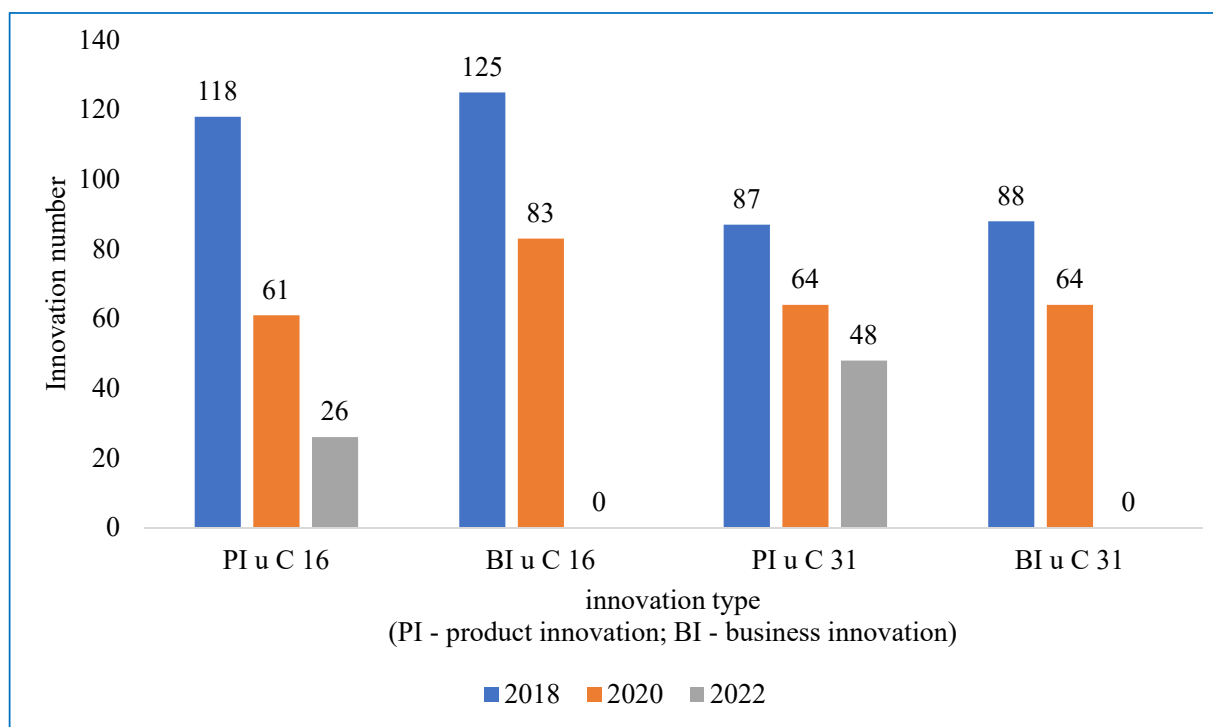
	2018	EU-27 (in EUR)	Croatia (in EUR)	share of CRO in EU (in %)
C	Turnover from innovation	1,214,512,329	2,867,977	0,24
	new to the firm	785,528,965	1,755,586	0,22
	new to the market	428,983,362	1,112,391	0,26
C 16	Turnover from innovation	7,074,713	133,380	1,89
	new to the firm	4,195,205	129,322	3,08
	new to the market	2,879,510	4,058	0,14
C 31	Turnover from innovation	10,868,310	93,099	0,86
	new to the firm	7,719,618	65,915	0,85
	new to the market	3,148,696	27,184	0,86
	2020			
C	Turnover from innovation	993,079,211	3,291,681	0,33
	new to the firm	611,756,847	2,589,369	0,42
	new to the market	379,652,842	702,312	0,18
C 16	Turnover from innovation	6,176,100	252,699	4,09
	new to the firm	4,071,573	233,114	5,73
	new to the market	2,080,814	19,585	0,94
C 31	Turnover from innovation	7,593,613	134,727	1,77
	new to the firm	4,775,049	110,817	2,32
	new to the market	2,798,563	23,910	0,85
	2022			
C	Turnover from innovation	1,578,314,576	3,410,202	0,22
	new to the firm	1,063,916,936	2,779,614	0,26
	new to the market	514,397,640	630,587	0,12
C 16	Turnover from innovation	7,516,363	105,597	1,4
	new to the firm	5,034,972	99,601	1,98
	new to the market	2,490,966	5,996	0,24
C 31	Turnover from innovation	10,443,055	155,914	1,49
	new to the firm	6,831,670	131,044	1,92
	new to the market	3,744,280	24,871	0,66

c) Turnover from innovation 2018, 2020 and 2022

Croatia's overall share in EU manufacturing **innovation turnover** (C) remains low, between 0.22% in 2022 and 0.33% in 2020,

In C16, Croatia reached a peak share of **4.09% in 2020**, driven primarily by innovations "new to the firm" (5.73%), while in C31, it recorded 1.77%, showing a consistent innovation presence

Across all years, Croatia's turnover from "new to the firm" innovations is significantly higher than for "new to the market", indicating a tendency toward adopting existing innovations rather than developing original ones



Types of innovation -2018-2020-2022

d) types of innovation

- In both sectors (C 16 and C 31), 2018 was the peak year, with the highest recorded number of innovations — notably over 120 business innovations in C16.
- By 2020, the number of innovations decreased across all categories but remained relatively strong, especially in business innovations in C31 (around 85).
- In 2022, there was a sharp decline in product innovations in C16, dropping to about 25, and no data shown for business innovations, suggesting either a lack of activity or missing data.
- Overall, the trend indicates a steady decline in innovation activity, particularly after 2018, with business innovation in the furniture sector showing the greatest resilience.



SUMMARY

- Innovation in the Croatian wood industry is consistently present, especially in wood processing (C16) and furniture manufacturing (C31).
- Although the number of innovative companies is small, their relative EU share is notable in these traditional sectors.
- In 2020, C16 reached 4.09% of EU innovation revenue, while C31 achieved 2.86% in contract R&D.
- Croatian firms mostly adapt existing innovations rather than create market-new ones, showing reliance on knowledge transfer.
- Sustained growth will require stronger policy support, targeted investments, and cross-sectoral cooperation.



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THANK YOU!

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