

# ERPsim

## Logistics Sustainability w/Disruptors Student Friendly Challenge – Round 3&4

### Please Note

This event might be recorded and made available on the ERPsim website. Please be aware that questions you ask or discussions you participate in will be recorded as a part of the presentation.

By attending this online event you are giving your permission to being recorded. Participant names / photos / video (if connected to event via webcam) may be shared. If you do not wish to be recorded, please disconnect from the event at this time.

This presentation contain references to products of SAP SE, Dietmar-Hopp-Allee 16, 69190 Walldorf, Germany. The names of these products are registered and/or unregistered trademarks of SAP SE. SAP SE is neither the author nor the publisher of this presentation and is not responsible for its content.

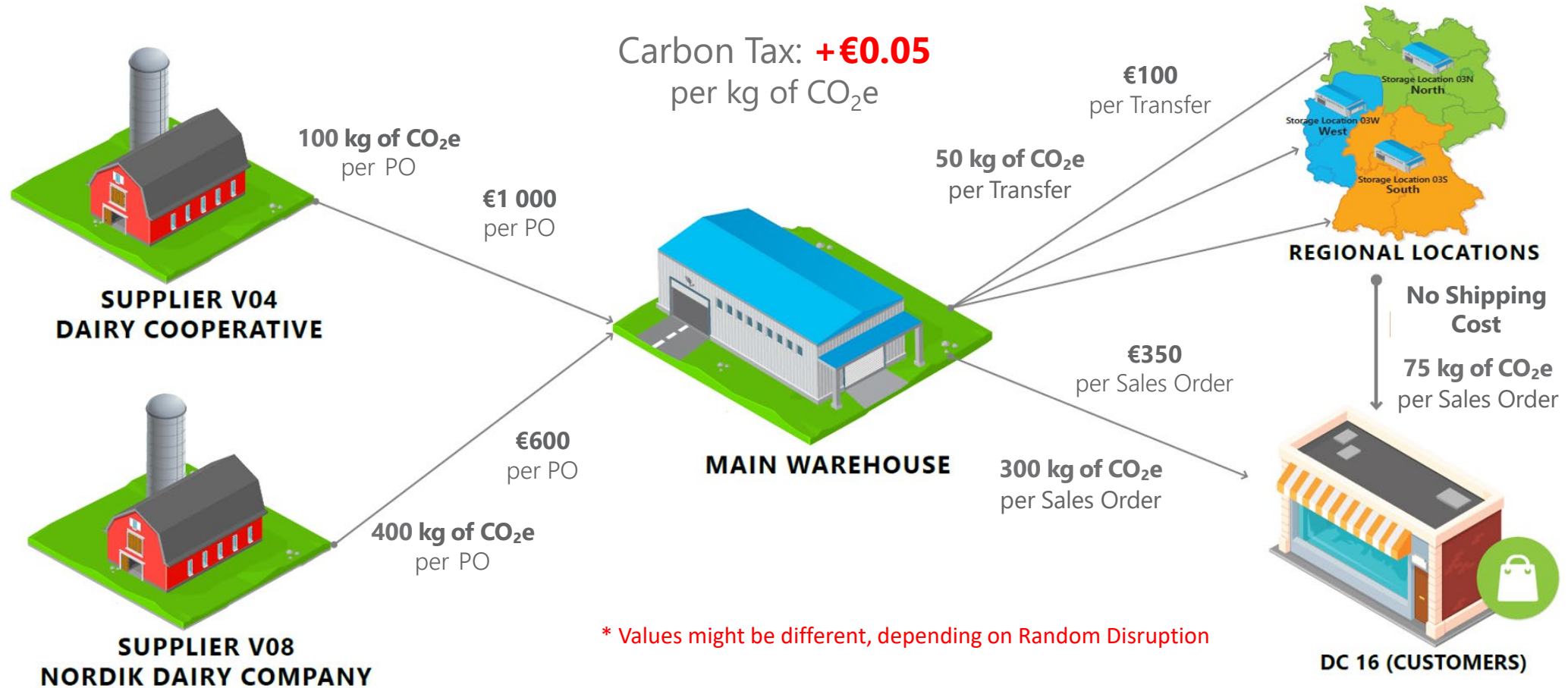
ERPsim Challenge Logistics Sustainability with Disruptors 2025  
HyFlex | Oct 3, 2025

ERPsimLab  
HEC MONTRÉAL











Serious games to learn enterprise  
systems and business analytics

# Round 3&4 Scenario



# Random Disruptions

1)		Cold Spell	<ul style="list-style-type: none"> <li>Higher carbon emissions per unit purchased</li> <li>Reduced energy footprint and less energy-intensive additional storage</li> </ul>	RD4
2)		Carbon Decree	<ul style="list-style-type: none"> <li>Higher carbon tax</li> <li>Lower energy footprint</li> </ul>	
3)		Supplier Disruption	<ul style="list-style-type: none"> <li>Increased emissions from less-optimal routing</li> <li>Higher carbon emissions for all products purchased</li> </ul>	
4)		Hub Gridlock	<ul style="list-style-type: none"> <li>Higher carbon emissions from direct sales</li> <li>Increased emissions from procurement and internal transfers</li> </ul>	
5)		System Glitch	<ul style="list-style-type: none"> <li>Certain reports unavailable</li> <li>Requires consultant support or alternative data sources for decision-making</li> </ul>	RD3
6)		Data Breach	<ul style="list-style-type: none"> <li>Team data exposed to competitors</li> <li>Can access competitors' data and compare strategies</li> </ul>	
7)		Flash Flood	<ul style="list-style-type: none"> <li>Entire warehouse inventory lost</li> <li>Recovery efforts needed to reduce financial impact</li> </ul>	
8)		AI Innovation	<ul style="list-style-type: none"> <li>New AI tool developed by IT</li> <li>Use it to enhance planning decisions</li> </ul>	

# Random Disruption 3



1) Cold Spell



2) Carbon Decree



3) Supplier Disruption



4) Hub Gridlock



5) System Glitch



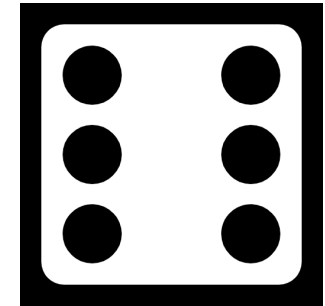
6) Data Breach




7) Flash Flood




8) AI Innovation



Reset



## Data Breach



Due to a data breach, data from all teams has been exposed to the competition. You can now compare your strategies with those of your competitors, who likewise have access to your information.



# Disruption 6 – Data Breach

Main Impact	Impact 2	Impact 3	Impact on students' strategies
All teams now have access to each other's OData information			Students can now compare their strategies with those of their competitors to identify potential improvement areas or gaps in the market.

Impact	Default values	New values
OData views	Own team's data	All teams' data

# Random Disruption 4



1) Cold Spell



2) Carbon Decree



3) Supplier Disruption



4) Hub Gridlock



5) System Glitch



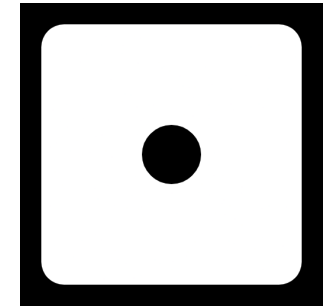
6) Data Breach



7) Flash Flood



8) AI Innovation



Reset



## Cold Spell



A prolonged cold spell affects your suppliers' operations. To protect their dairy cattle and facilities, suppliers use additional energy-intensive measures, increasing the carbon emissions associated with the products you purchase.

However, the lower ambient temperatures reduce the energy required to cool your plant and additional storage areas.

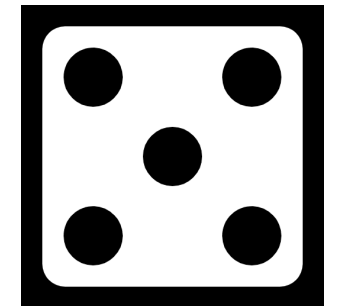


# Disruption 1 – Cold Spell

Main Impact	Impact 2	Impact 3	Impact on students' strategies
Increase carbon per unit purchased	Decrease carbon for overstocking products	Decrease slightly carbon for purchased energy	Students must evaluate whether to continue ordering the affected products. In either cases, they may need to revise their procurement, pricing, and logistics strategies accordingly.

Impact	Default values	New values
Carbon emission per unit purchased for the impacted products	Supplier-dependent	+5 kg/unit
Carbon emission for overstocking products	500 kg/container	-300 kg/container
Carbon emission for purchased energy	100 kg/day	-25 kg/day

Event	Products Impacted
1	Milk and Cream
2	Milk and Yoghurt
3	Milk and Butter
4	Cream and Yoghurt
5	Cream and Butter
6	Yoghurt and Butter



# Round 1

## Financial Statements - R1

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
G	AAA+	6.000	1	1,446,177.60	18,077.22	129,807.36	14.928	13.926	3.489	3.281	6.358	0.000	18,077.22	129,807.36	9,863.00	3.58	0.08
I	AAA+	6.000	2	1,260,294.40	15,753.68	125,690.25	16.711	12.534	3.055	2.793	9.378	0.000	15,753.68	125,690.25	13,077.00	4.80	0.10
F	AAA+	6.000	3	1,029,245.60	12,865.57	63,010.25	22.323	20.418	2.509	2.509	0.000	0.000	12,865.57	63,010.25	7,450.00	5.47	0.12
C	AA+	6.500	4	815,505.12	10,958.35	80,525.57	16.465	13.609	2.145	1.775	20.807	0.000	10,958.35	80,525.57	11,312.60	6.30	0.14
B	AAA+	6.000	5	540,568.80	6,757.11	143,022.07	6.403	4.725	1.333	1.109	20.227	0.000	6,757.11	143,022.07	12,854.60	3.84	0.09
A	AA+	6.500	6	190,639.63	2,561.72	147,917.54	11.501	1.732	0.510	0.446	14.263	0.000	2,561.72	147,917.54	22,445.40	6.52	0.15
J	AAA+	6.000	7	(58,360.00)	(729.50)	140,244.00	6.753	(0.520)	(0.146)	(0.146)	0.000	0.000	(729.50)	140,244.00	14,100.00	4.70	0.10
H	AAA+	6.000	8	(86,364.80)	(1,079.56)	136,334.78	6.690	(0.792)	(0.216)	(0.216)	0.000	0.000	(1,079.56)	136,334.78	14,100.00	4.78	0.10
D	AAA+	6.000	9	(105,797.60)	(1,322.47)	133,622.26	6.644	(0.990)	(0.265)	(0.265)	0.000	0.000	(1,322.47)	133,622.26	14,100.00	4.83	0.11
E	AAA+	6.000	10	(172,762.40)	(2,159.53)	138,010.16	6.587	(1.565)	(0.434)	(0.434)	0.000	0.000	(2,159.53)	138,010.16	15,000.00	5.05	0.11

# Round 2

Financial Statements - R2

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
G	AAA+	6.000	1	1,134,477.60	28,361.94	240,971.83	13.617	11.770	5.368	4.286	25.252	0.000	10,284.72	111,164.47	18,598.60	3.68	0.08
F	AAA+	6.000	2	959,453.20	23,986.33	152,671.11	20.255	15.711	4.578	4.578	0.000	0.000	11,120.76	89,660.86	15,933.40	5.00	0.10
B	AAA+	6.000	3	666,306.00	16,657.65	330,844.09	6.622	5.035	3.224	2.752	17.175	0.000	9,900.54	187,822.02	24,970.80	3.22	0.08
I	AAA+	6.000	4	568,722.30	14,218.07	285,112.11	15.995	4.987	2.765	2.352	17.572	0.000	(1,535.61)	159,421.86	25,283.20	4.22	0.09
J	AAA+	6.000	5	(49,180.00)	(1,229.50)	140,244.00	6.753	(0.877)	(0.247)	(0.247)	0.000	0.000	(500.00)	0.00	16,100.00	5.37	0.11
C	AA+	6.500	6	(64,384.37)	(1,730.33)	130,407.97	16.300	(1.327)	(0.347)	(0.306)	13.549	0.000	(12,688.68)	49,882.40	18,060.00	6.31	0.14
E	AA+	6.500	7	(174,635.91)	(4,693.34)	138,010.16	6.587	(3.401)	(0.948)	(0.948)	0.000	0.000	(2,533.81)	0.00	17,000.00	5.72	0.12
H	AAA+	6.000	8	(205,548.80)	(5,138.72)	136,334.78	6.690	(3.769)	(1.038)	(1.038)	0.000	0.000	(4,059.16)	0.00	16,100.00	5.46	0.12
D	AAA+	6.000	9	(314,049.60)	(7,851.24)	133,622.26	6.644	(5.876)	(1.595)	(1.595)	0.000	0.000	(6,528.77)	0.00	16,100.00	5.52	0.12
A	AAA+	6.000	10	(4,078,282.40)	(101,957.06)	283,470.74	12.842	(35.967)	(25.615)	(20.130)	27.248	0.000	(104,518.78)	135,553.20	37,353.60	5.66	0.13

# Round 3

## Financial Statements - R3

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
G	AAA+	6.000	1	986,388.27	36,989.56	327,211.04	13.306	11.305	6.888	5.983	15.123	0.000	8,627.62	86,239.21	26,143.20	3.97	0.08
F	AAA+	6.000	2	436,691.20	16,375.92	236,605.54	19.109	6.921	3.171	2.715	16.817	0.000	12,389.59	83,934.43	23,726.60	4.86	0.10
I	AAA+	6.000	3	363,481.33	13,630.55	368,914.84	16.431	3.695	2.654	2.654	0.000	0.000	(587.52)	83,802.73	35,104.80	4.52	0.10
C	AAA+	6.000	4	324,496.53	12,168.62	271,416.77	14.482	4.483	2.376	2.069	14.813	0.000	13,898.95	141,008.80	28,158.80	4.96	0.10
B	AAA+	6.000	5	87,934.13	3,297.53	513,148.94	6.791	0.643	0.655	0.655	0.000	0.000	(13,360.12)	182,304.85	32,452.40	2.79	0.06
E	AA+	6.500	6	(131,307.66)	(5,293.34)	138,010.16	6.587	(3.835)	(1.070)	(1.070)	0.000	0.000	(600.00)	0.00	19,000.00	6.39	0.14
J	AAA+	6.000	7	(182,120.00)	(6,829.50)	140,244.00	6.753	(4.870)	(1.385)	(1.385)	0.000	0.000	(600.00)	0.00	18,100.00	6.03	0.13
D	AAA+	6.000	8	(225,366.40)	(8,451.24)	133,622.26	6.644	(6.325)	(1.719)	(1.719)	0.000	0.000	(600.00)	0.00	18,100.00	6.21	0.14
H	AA+	6.500	9	(748,877.89)	(30,189.14)	253,143.62	8.366	(11.926)	(6.426)	(5.501)	16.817	0.000	(50.42)	116,808.84	40,425.00	8.18	0.16
A	AAA+	6.000	10	(2,111,879.73)	(79,195.49)	454,231.31	13.421	(17.435)	(18.820)	(14.358)	31.075	0.000	22,761.57	170,760.57	44,815.80	4.16	0.10

# Round 4

## Financial Statements - R4

Team	Credit ratings	Interest Rate (%)	Rank	Company valuation	Cumulative Net Income	Total sales	Gross Margin (%)	Net Margin (%)	ROE (%)	ROA (%)	D/E (%)	Mktg/S (%)	Round Net Income	Round Sales per Team	CO2e (kg)	CO2e per Unit Sold (kg/unit)	CO2e per Sales (kg/€)
G	AAA+	6.000	1	953,132.40	47,656.62	409,730.83	13.620	11.631	8.702	8.041	8.221	0.000	10,667.06	82,519.79	32,520.40	4.04	0.08
F	AAA+	6.000	2	493,393.80	24,669.69	298,818.93	19.078	8.256	4.702	4.133	13.763	0.000	8,293.77	62,213.39	30,972.00	5.01	0.10
C	AAA+	6.000	3	438,717.20	21,935.86	383,185.72	14.451	5.725	4.203	4.203	0.000	0.000	9,767.24	111,768.95	35,927.60	4.60	0.09
I	AAA+	6.000	4	430,265.20	21,513.26	447,538.99	16.389	4.807	4.125	4.016	2.713	0.000	7,882.71	78,624.15	43,474.00	4.58	0.10
B	AAA+	6.000	5	211,954.40	10,597.72	670,356.37	6.888	1.581	2.076	2.076	0.000	0.000	7,300.19	157,207.43	44,440.80	2.93	0.07
E	AA+	6.500	6	(111,504.00)	(5,993.34)	138,010.16	6.587	(4.343)	(1.213)	(1.213)	0.000	0.000	(700.00)	0.00	21,000.00	7.07	0.15
J	AAA+	6.000	7	(150,590.00)	(7,529.50)	140,244.00	6.753	(5.369)	(1.529)	(1.529)	0.000	0.000	(700.00)	0.00	20,100.00	6.70	0.14
D	AAA+	6.000	8	(183,024.80)	(9,151.24)	133,622.26	6.644	(6.849)	(1.864)	(1.864)	0.000	0.000	(700.00)	0.00	20,100.00	6.89	0.15
H	AA+	6.500	9	(464,894.51)	(24,988.08)	341,126.07	10.283	(7.325)	(5.261)	(3.835)	37.179	0.000	5,201.06	87,982.45	52,372.20	8.04	0.15
A	AAA+	6.000	10	(1,350,641.20)	(67,532.06)	591,941.27	12.589	(11.409)	(15.616)	(10.808)	44.482	0.000	11,663.43	137,709.96	54,313.20	3.91	0.09



# Thank you!

Learn more about ERPsim

[erpsim.hec.ca](https://erpsim.hec.ca)    [erpsim@hec.ca](mailto:erpsim@hec.ca)