

# ERPsim

## Start of Term Webinar / 2023 Edition

### Please Note

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Webinar  
Online | January 9, 2024

**ERPsimLab**  
HEC MONTRÉAL

Serious games to learn enterprise  
systems and business analytics

# Agenda

1. Welcome
2. Highlights of 2022-2023
3. ERPsim licensing, training, certification
4. ERPsim 2023-2024
  - ▶ New Game(s)
  - ▶ New and improved features
  - ▶ New Class Management system
5. Q&A

# Highlights of 2022-2023

- ERPsim was used in more than 250 universities!
- Launch of the new Manufacturing Sustainability game
- Improvement to existing games
- New transactions to improve gameplay and game support
- New per-event licensing
- Revamp of the certification program
- Digital badging for certifications and competitions
- Launch of "SAP ERPsim Challenges"

# Game-based Learning for ERP

## ACADEMIC

**19+ years in use**  
**3 000+ faculty trained**

Every year, more than  
**6 000+ simulations**  
are played by  
**25 000+ students**  
across  
**250+ universities**  
from around the world

## COMMERCIAL

Many large organizations, such as Boeing, Coca-Cola, 3M, Kraft, Caterpillar, Pfizer and SAP, are using ERPsim to train their end-users on ERP systems.

**BATON**

## RESEARCH

Several researchers have started using ERPsim to run experimental protocol in IS.

Visit  
<http://erpsim.hec.ca/research>

## WINNER OF THE

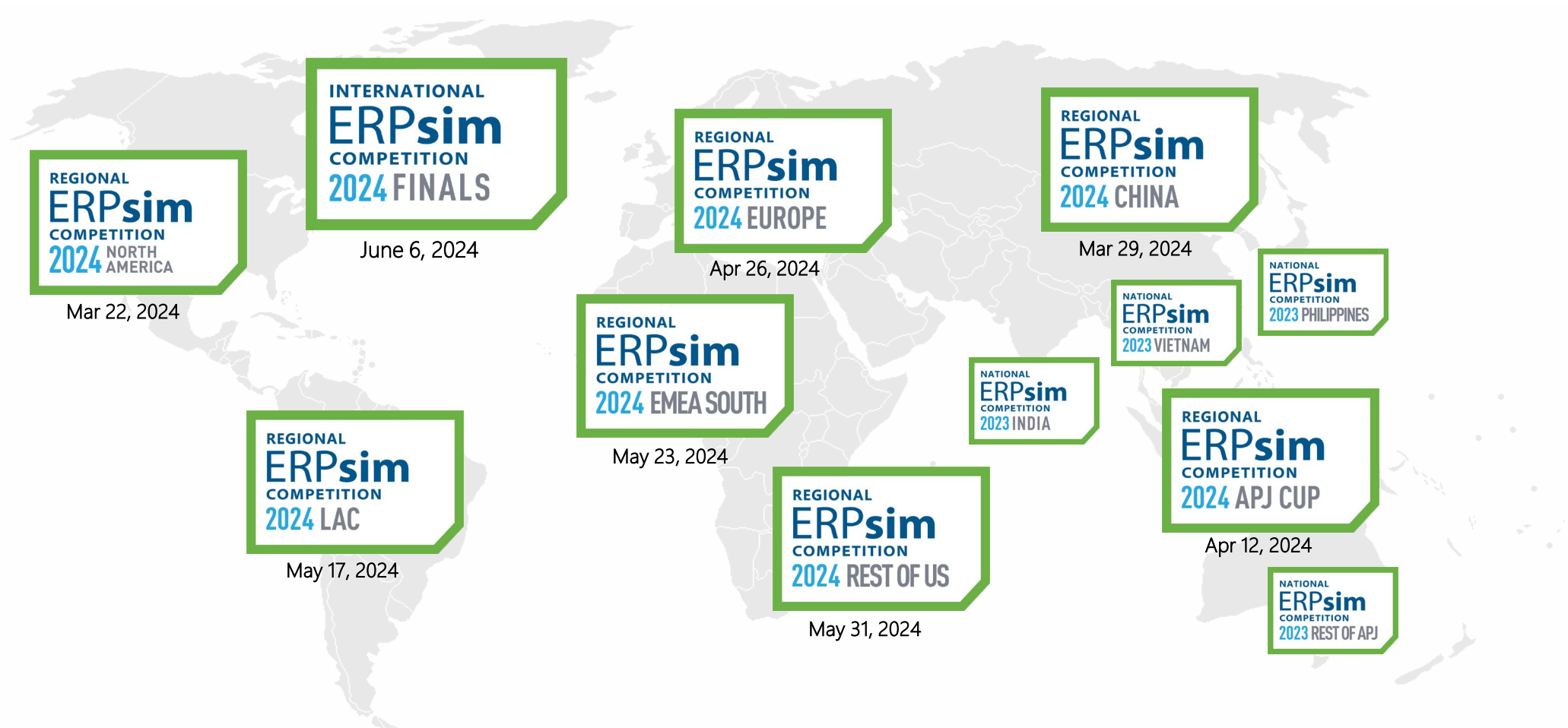
2013 Prix de l'innovation pédagogique Cidegef/FNEGE

2007 Majdi Najm Award

2006 HEC Montréal Award for teaching excellence for an assistant professor

2005 HEC Montréal Award for the use of technology in teaching

# ERPsim Competitions 2024



# ERPsim Licensing Options

Does not include UCC hosting fees

## Individual licenses

Purchased directly by students  
Valid for one course, for the full semester

## Bulk purchase

Pricing adjusted to UN Human Development Index  
Inquire for a quote

## Event-based pricing

For a short-term use (competitions, gameathons, open house days, recruitment days, intra-university games, intro courses)  
Limited access to instructional assets

## Free use for research

For qualified experimental research

# Pricing and Support

Does not include UCC hosting fees

## ERPsim License

\$57 CAD per student,  
valid for one course  
(max. 6 months)

Effective price from August 1<sup>st</sup> 2023 to July 31<sup>st</sup> 2024.

May change at anytime.

Visit <https://ersim.hec.ca/buy> for conditions.

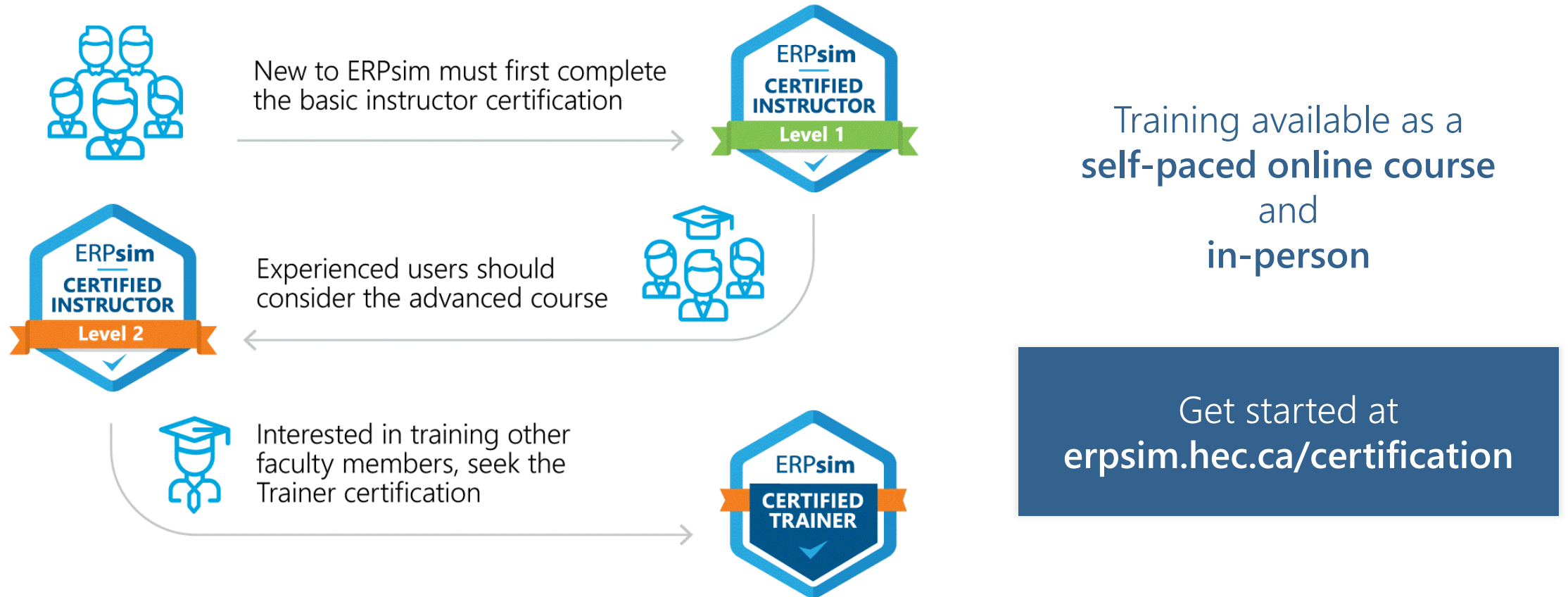
In the event of a disparity between the price presented on this slide and the one on <https://ersim.hec.ca/buy>, the latter shall prevail.

## The license includes

- For the student:
  - i. Access to the simulation game
  - ii. Access to the pedagogical material (job aids, participant's guide, slides, self-training videos, etc.)
- For the professor:
  - i. Ability to start and manage any of the game scenarios, unlimited for the duration of the course
  - ii. Access to technical and pedagogical support from HEC Montréal



# ERPsim Training and Certification





# FACULTY HIGHLIGHT SERIES



- A series of interviews showcasing the work of faculty members
- Learn more about their experience, teaching best practices, research projects, and tips and tricks using ERPsim
- A new entry showcased every two weeks!

[erpsim.hec.ca/faculty-highlight-series](https://erpsim.hec.ca/faculty-highlight-series)

# SAP System

Version

SAP S/4HANA 2022

Supported UI

SAP Fiori and SAP GUI

Analytics

SAP standard reports  
Smart Business  
OData Service 2.0

Languages  
(BETA)

English, French, Spanish,  
German

The screenshot displays the SAP Fiori Launchpad interface. At the top, there is a navigation bar with the SAP logo and a 'Home' dropdown menu. Below this, a secondary navigation bar lists several functional areas: Simulation Overview, Planning, Procurement, Logistics, Sales, and Accounting. The main content area is organized into several sections:

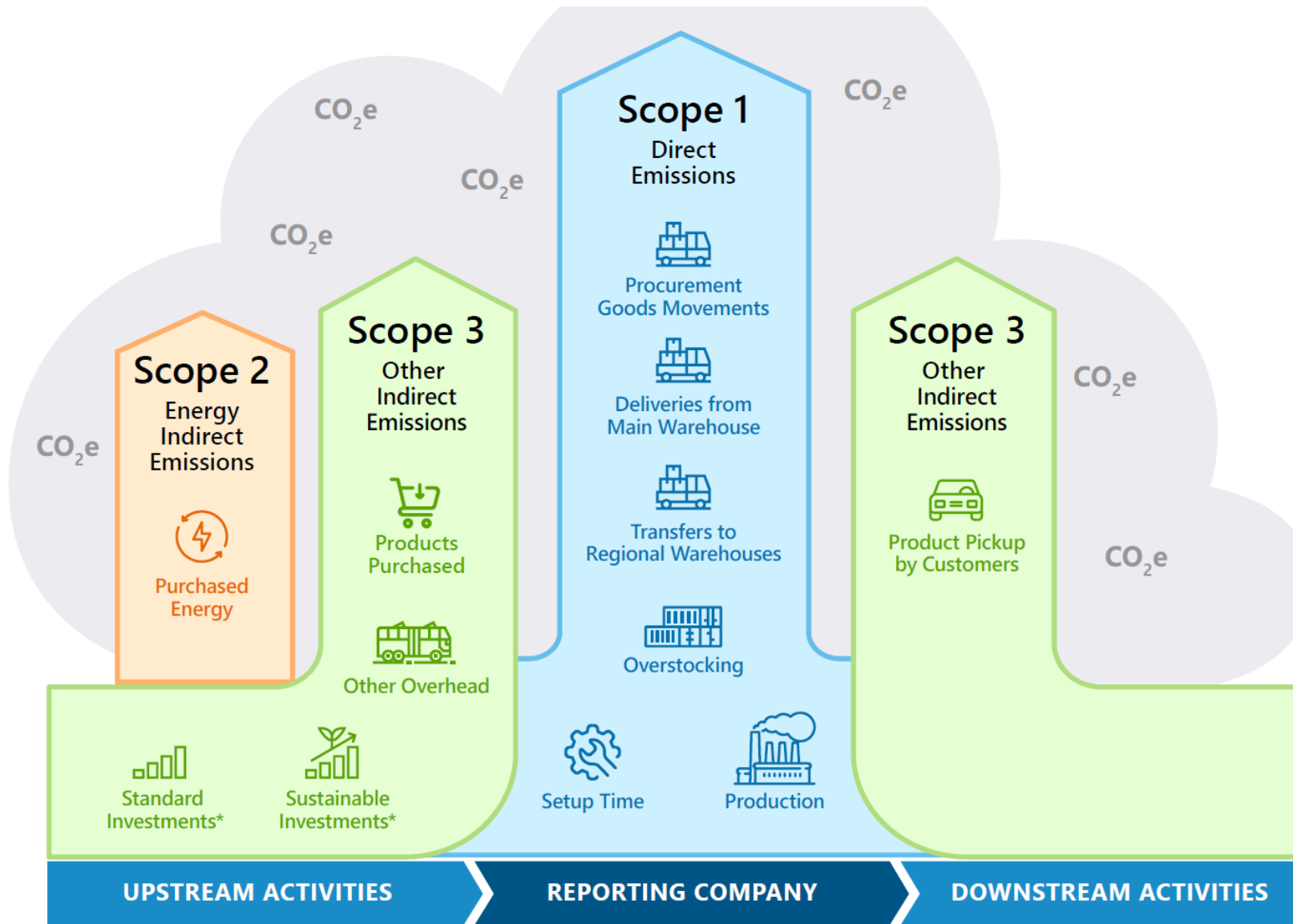
- Simulation Overview:** Three tiles showing 'Simulation Date' (01, Round 03), 'Elapsed Steps' (41, Day(s) since beginning, Period 9), and 'Company Valuation' (1.44 M, Current Company Va..., C now EUR).
- Planning:** Three tiles: 'Create Planned Independent Requirements' (MD61), 'MRP Run' (MD01), and 'Inventory Report' (ZMB52).
- Procurement:** Four tiles: 'Create Purchase Orders' (ME59N, PurReq to convert), 'Procurement Sourcing' (ZME13), 'Purchase Order Tracking' (ZME2N), and 'Purchase Orders Expected Delivery on' (02/05, 8.00K ST, C now).
- Logistics:** Three tiles: 'Stock Transfer' (ZMB1B), 'Inventory Report' (ZMB52), and 'Stock Transfers Latest Stock Transfers' (No data).

SAP Fiori Launchpad configured for the  
Logistics Extended game

# New Game Scenario

## Manufacturing Sustainability

- Maintain profitable operations while keeping carbon footprint low
- More variables in decision making
- Customize it to your liking



\* Investments include capital goods purchases (e.g., solar panels, additional machinery or electric vehicles) and consultants business travels.

# Improvements for Sustainability Scenarios

## For both Logistics and Manufacturing

- Carbon footprint has now an impact on company valuation

# New game in development

Retail game retired from the lineup

A new game is currently under development. Stay tuned!

[Launch a Simulation](#)
[Simulation Monitoring](#)
[Instructor Reports](#)
▶ ⏸ End/20 2/12 ⌵ Time per Step 00:00:03

Simulation Paused...

SERVER: Ross · CLIENT: 304 · USER: erpsim | ERPsimWS\_2023R05\_1

Simulation Monitoring / Manufacturing In

Info Viewer

Leaderboard

Results for Round: << 1 **2** >>

You can navigate between rounds to display past results

## 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 Productivity	Round Sales per Team
A	AAA+	6.000	1	52,596,126.00	876,602.10	2,155,394.76	67.440	40.670	4.199	4.199	0.000	0.000	446,135.42	80.000	1,085,294.76
B	AAA+	6.000	2	31,520,481.60	525,341.36	1,635,700.00	67.382	32.117	2.559	2.559	0.000	0.000	94,874.68	40.000	565,600.00
C	AAA+	6.000	3	8,528,001.60	142,133.36	1,070,100.00	67.171	13.282	0.706	0.706	0.000	0.000	(288,333.32)	0.000	0.00

## Cumulative Net Income ▾

Team	
Team A	876,602.10
Team B	525,341.36
Team C	142,133.36

## Company valuation ▾

Team	
Team A	52,596,126.00
Team B	31,520,481.60
Team C	8,528,001.60

## Total sales ▾

Team	
Team A	2,155,394.76
Team B	1,635,700.00
Team C	1,070,100.00

Both leaderboard and comparator features are now on the same screen

Administration Troubleshooting Administrator Reports

ERPsim Client Setup ZSTART	Control Panel ZCONTROL	User Management ZUSER  0 Account(s) locked	External Links ZLINK	Scrap Inventory ZSCRAP	Loan Repayment ZLOAN
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Troubleshooting

Process Goods Movements Errors COGI  0 Error(s) found	Predefined Confirmation Processes CO1P	Rejected Production Orders ZREJECTED  ! 1 Release(s) Rejected
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Administrator Reports

Inventory Report ZMB52  📅	Purchase Order Tracking ZME2N  📅	Production Report ZCOOIS  📅	Sales Order Report ZVA05  📅	Summary Sales Order Report ZVC2  📅	Display Price List VK33  📅	Financial Statements Fiori  📅	Company Valuation Report ZVAL  📅
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# New transactions

## ZLINK

- Provides interface to give links to students at specific rounds

## ZRPA

- AI-based forecast transaction for the Digital Transformation curriculum

## ZFB50

- Makes investment decisions easy
- Only available in MNF Sustainability for now

# New transactions (admin only)

## ZREJECTED

- Allows modifying and releasing production order with “release rejected” status

## ZLOAN

- Allows reimbursing any team’s bank loan in one click, using available cash from said team

## ZSCRAP

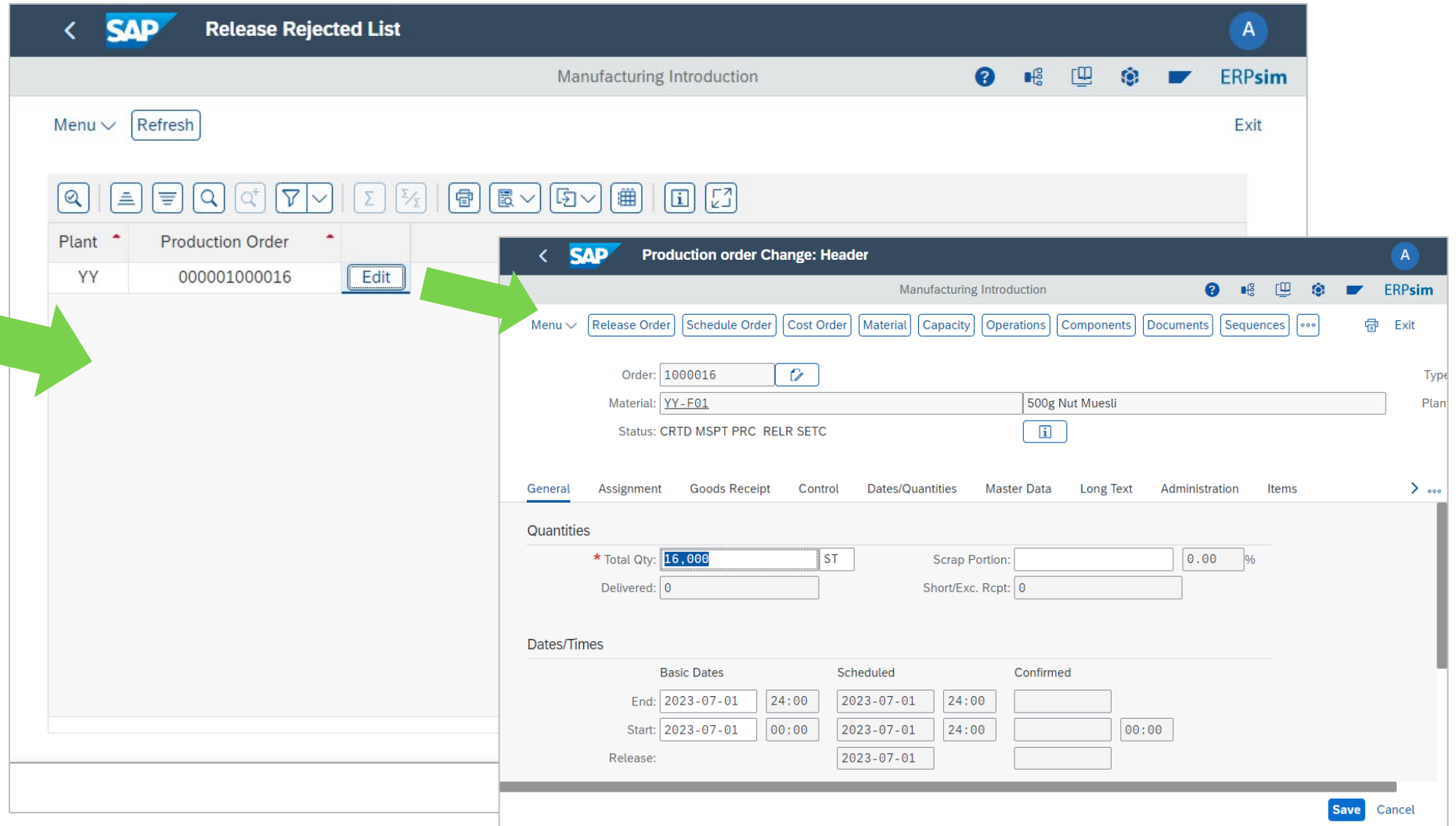
- Allows scrapping inventory of select companies and add financial impact accordingly

# ZREJECTED – Fix Rejected Prod. Orders

Rejected  
Production Orders  
ZREJECTED

 **1**

Release(s) Rejected



**SAP Release Rejected List**

Manufacturing Introduction

Menu  Exit

Plant	Production Order	
YY	000001000016	<input type="button" value="Edit"/>

**SAP Production order Change: Header**

Manufacturing Introduction

Menu

Order: 1000016

Material: YY-F01 500g Nut Muesli

Status: CRTD MSPT PRC RELR SETC

**General** Assignment Goods Receipt Control Dates/Quantities Master Data Long Text Administration Items

**Quantities**

\* Total Qty: 16,000 ST Scrap Portion: 0.00 %

Delivered: 0 Short/Exc. Rcpt: 0

**Dates/Times**

Basic Dates		Scheduled		Confirmed	
End:	2023-07-01 24:00	2023-07-01	24:00		
Start:	2023-07-01 00:00	2023-07-01	24:00		00:00
Release:		2023-07-01			

# ZFB50 – Investments

SAP Post Investments						
Manufacturing Sustainability						
Menu <input type="button" value="Refresh Data"/>						
Standard Investments						
Description	Fin. Account	Current Balance (€)	Posting Amount (€)	Carbon Emission (kg/1,000,000€)		
Capacity Improvement	0000011000	16,000,000.00	<input type="text"/>	1,000.00	<input type="button" value="Purchase"/>	
Setup Time Reduction	0000478000	0.00	<input type="text"/>	2,000.00	<input type="button" value="Purchase"/>	
Loan Repayment	0000113101	0.00	<input type="text"/>	0.00	You do not currently have a loan.	
Sustainable Investments						
Description	Fin. Account	Current Balance (€)	Current Effect (%)	Posting Amount (€)	Posting Effect (%)	Carbon Emission (kg/Purchase)
Freight Fleet Improvements	0000011098	0.00	0.00	10,000.00	15.00	2,000.00 <input type="button" value="Purchase"/>
Sustainable Manufacturing	0000011099	0.00	0.00	10,000.00	15.00	2,000.00 <input type="button" value="Purchase"/>

# ZFB50 – Investments

SAP ERPsim Control Panel

Manufacturing Introduction

Menu   Refresh Data

Overview Carbon Impact Suppliers Goods Movements Overstock Overhead Logistics Reports Management Production Investments

### Investments Management

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Activate Investments Management

Activate Transaction ZFB50: Round 1

#### Standard Investments

---

	Account	Threshold	Carbon Emissions	
Capacity Improvement	0000011000	1,000,000.00	<input style="width: 80px;" type="text" value="1,000.00"/>	kg/Threshold
Setup Time Reduction	0000478000	1,000,000.00	<input style="width: 80px;" type="text" value="2,000.00"/>	kg/Threshold

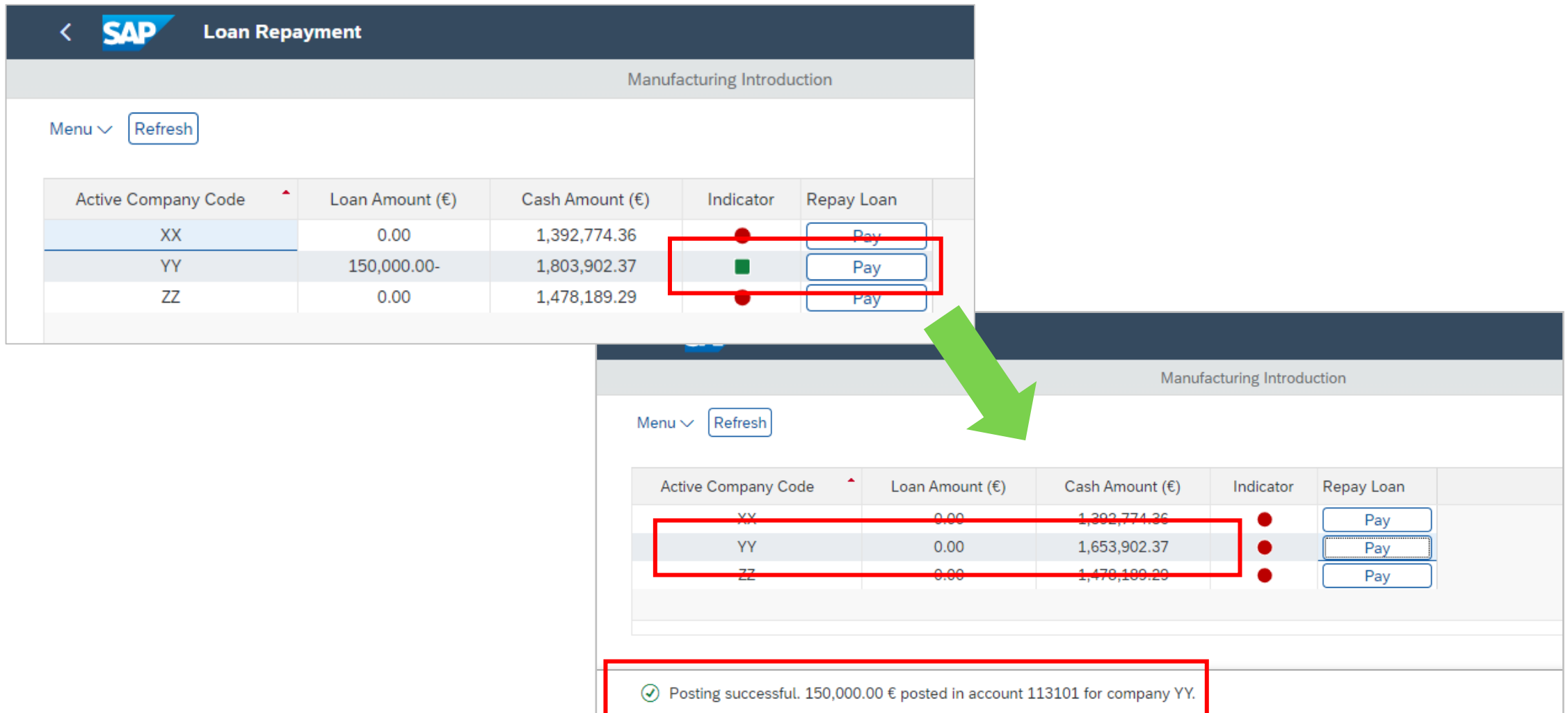
#### Sustainability Investments

---

	Account	Threshold	Carbon Emissions	Carbon Reduction	Maximum Reduction
<input checked="" type="checkbox"/> Freight Fleet Improvements	0000011098	10,000.00	<input style="width: 80px;" type="text" value="2,000.00"/>	kg/Threshold	15.00 % 45.00 %
<input checked="" type="checkbox"/> Sustainable Manufacturing	0000011099	10,000.00	<input style="width: 80px;" type="text" value="2,000.00"/>	kg/Threshold	15.00 % 45.00 %

Reset Module
Save Module

# ZLOAN – One-click Bank Load Repayment



**SAP Loan Repayment**  
Manufacturing Introduction

Menu ▾ Refresh

Active Company Code	Loan Amount (€)	Cash Amount (€)	Indicator	Repay Loan
XX	0.00	1,392,774.36	●	Pay
YY	150,000.00-	1,803,902.37	■	Pay
ZZ	0.00	1,478,189.29	●	Pay

Manufacturing Introduction

Menu ▾ Refresh

Active Company Code	Loan Amount (€)	Cash Amount (€)	Indicator	Repay Loan
XX	0.00	1,392,774.36	●	Pay
YY	0.00	1,653,902.37	●	Pay
ZZ	0.00	1,478,189.29	●	Pay

✓ Posting successful. 150,000.00 € posted in account 113101 for company YY.

# ZLINK

< **SAP** Game Instructions

Manufacturing Sustainability

Menu  Refresh

---

External Documentation

[Edit Content](#)

Round 1	<a href="https://erpsim.hec.ca/content1">https://erpsim.hec.ca/content1</a>
Round 2	<a href="https://domain:port/target">https://domain:port/target</a>
Round 3	No new link for this Round.
Round 4	Unlocked at the end of Round 3.
Round 5	Unlocked at the end of Round 4.
Round 6	Unlocked at the end of Round 5.
Round 7	Unlocked at the end of Round 6.
Round 8	Unlocked at the end of Round 7.

# ZSCRAP – Eliminate Excess Inventory

<
SAP
Scrap Materials - Manufacturing Game

Manufacturing Sustainability

Menu ▾  Refresh

**Storage Location 02 - Main Warehouse**

Product	Inventory	Quantity to Scrap
F01 - 500g Nut Muesli	0.000	<input type="text"/>
F02 - 500g Blueberry Muesli	0.000	<input type="text"/>
F03 - 500g Strawberry Muesli	0.000	<input type="text"/>
F04 - 500g Raisin Muesli	0.000	<input type="text"/>
F05 - 500g Original Muesli	0.000	<input type="text"/>
F06 - 500g Mixed Fruit Muesli	0.000	<input type="text"/>
F11 - 1kg Nut Muesli	0.000	<input type="text"/>
F12 - 1kg Blueberry Muesli	10,674.000	<input style="border: 1px dashed black;" type="text"/>
F13 - 1kg Strawberry Muesli	0.000	<input type="text"/>
F14 - 1kg Raisin Muesli	0.000	<input type="text"/>
F15 - 1kg Original Muesli	0.000	<input type="text"/>
F16 - 1kg Mixed Fruit Muesli	0.000	<input type="text"/>

**Storage Location 02N - North Warehouse**

Product	Inventory	Quantity to Scrap
---------	-----------	-------------------

**Administration**

Plant	AA
Scenario	Manufacturing

**Financial Impact on the Company**

Click on "Calculate" and then on "Confirm Posting".

Manipulation	Posting Account	Posting Amount
Assets Reduction	792000 or 300000	0.00
Expenses Increase	890001 or 400001	0.00

Counterbalance Financial Posting

Cancel Posting
Calculate
Confirm Posting



# ZSCRAP – Eliminate Excess Inventory

[←](#) **SAP** Scrap Materials - Manufacturing Game

[Menu](#)  [Refresh](#)

Storage Location 02 - Main Warehouse

Product	Inventory	Quantity to Scrap
F01 - 500g Nut Muesli	0.000	<input type="text" value="0.000"/>
F02 - 500g Blueberry Muesli	0.000	<input type="text" value="0.000"/>
F03 - 500g Strawberry Muesli	0.000	<input type="text" value="0.000"/>
F04 - 500g Raisin Muesli	0.000	<input type="text" value="0.000"/>
F05 - 500g Original Muesli	0.000	<input type="text" value="0.000"/>
F06 - 500g Mixed Fruit Muesli	0.000	<input type="text" value="0.000"/>
F11 - 1kg Nut Muesli	0.000	<input type="text" value="0.000"/>
F12 - 1kg Blueberry Muesli	10,674.000	<input type="text" value="674.000"/>
F13 - 1kg Strawberry Muesli	0.000	<input type="text" value="0.000"/>
F14 - 1kg Raisin Muesli	0.000	<input type="text" value="0.000"/>
F15 - 1kg Original Muesli	0.000	<input type="text" value="0.000"/>
F16 - 1kg Mixed Fruit Muesli	0.000	<input type="text" value="0.000"/>



Administration

Plant AA

Scenario Manufacturing

---

Financial Impact on the Company

Click on "Calculate" and then on "Confirm Posting".

Manipulation	Posting Account	Posting Amount
Assets Reduction	792000 or 300000	1,529.98
Expenses Increase	890001 or 400001	1,529.98

Counterbalance Financial Posting

Manipulation	Posting Account	Posting Amount
Cash Increase	113300	1,529.98
Revenues Increase	800001	1,529.98

# ZUSER

NOT LOCKED

NOT LOCKED

Change Password ✕

New Password

Require students to change the password on first login

Password rules

Passwords are case-sensitive

Length: Between 6 and 40 characters

NOT LOCKED

⏮ 🔒 🔓 ✕

# Easy Login

The screenshot displays the SAP ERPsim Client Setup application. The main window is titled 'ERPsim Client Setup' and shows a 'Manufacturing Introduction' section. A modal dialog titled 'ERPsim - Client Options' is open, showing configuration options for 'Usage Logs (Z\* transactions only)' and 'Easy Login'. The 'Easy Login' section is highlighted with a red box, showing the 'Activate Easy Login page' checkbox checked and the 'Generate URL' button. The generated URL is `https://ross.hec.ca:8001/easylogin/304?code=5RHQE`.

ERPsim Client Setup

Manufacturing Introduction

Menu ▾ Execute Company Code Status User Management OData Set(s) Selection Financial Summary Options About

Simulations Exercises

Prepare client for which game?

Manufacturing Game (Muesli)

- Introduction
- Extended
- Sustainability
- Advanced

ERPsim - Client Options

Usage Logs (Z\* transactions only)

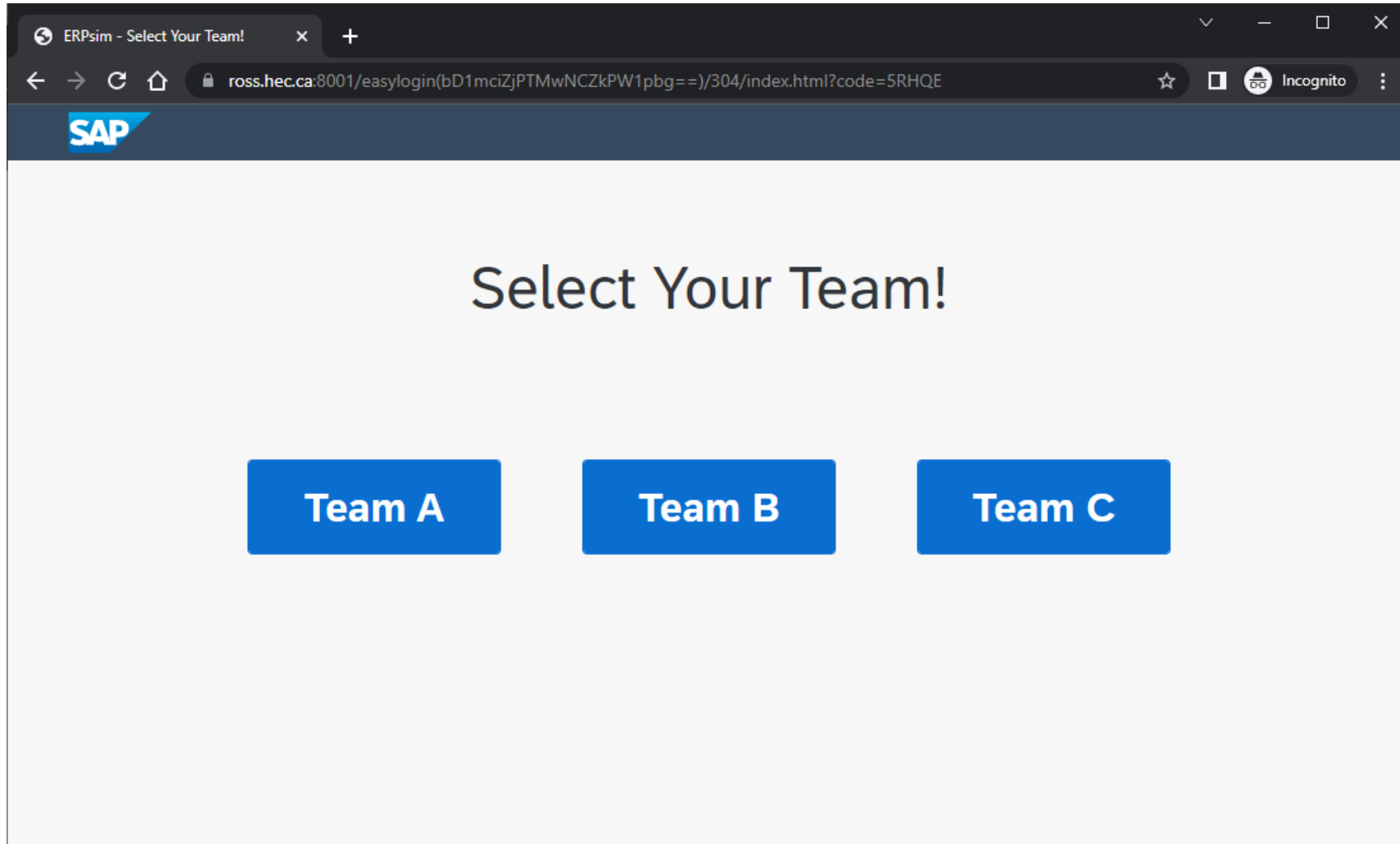
Log usage data in table /BATONSIM/LOG [Display Log](#)

Easy Login

Activate Easy Login page [Generate URL](#)

`https://ross.hec.ca:8001/easylogin/304?code=5RHQE`

# Easy Login



# Demo of the new Class Management system

# Job Aids, Slides, Guides, Videos

- All job-aids, slides and guides updated for academic year 2023-2024
- Available in English and French
- For videos, available with French, English, and Spanish subtitles



**Manufacturing Introduction Game**

User: **\$ 1 to \$ 9**  
Initial password: **ERPSIM**

Adapted for Fiori and for SAP GUI with Fiori Visual Theme Activated  
© ERPSim Lab, HEC Montréal  
Last Update: July 12, 2021



Nut	
\$\$-F01	500g
\$\$-F11	1kg
Starting Inventory	30 000 units each
35% wheat 35% oat 30% nut 1 box / 1 bag	



Blueberry	
\$\$-F02	500g
\$\$-F12	1kg
Starting Inventory	30 000 units each
35% wheat 35% oat 30% blueberry 1 box / 1 bag	



Strawberry	
\$\$-F03	500g
\$\$-F13	1kg
Starting Inventory	30 000 units each
35% wheat 35% oat 30% strawberry 1 box / 1 bag	



Raisin	
\$\$-F04	500g
\$\$-F14	1kg
Starting Inventory	30 000 units each
35% wheat 35% oat 30% raisins 1 box / 1 bag	



Original	
\$\$-F05	500g
\$\$-F15	1kg
Starting Inventory	None
50% wheat 50% oat 1 box / 1 bag	



Mixed	
\$\$-F06	500g
\$\$-F16	1kg
Starting Inventory	None
30% wheat 30% oat 40% fruits & nuts 1 box / 1 bag	

CUSTOMERS	
	DC 12: Grocery Chains Payment Time: 10-20 days Approximate Market Size €360 000 per team per week

STORAGE CAPACITY AND COSTS		
Product type	Current space	Cost per additional 50 000 units*
Finished products	250 000 boxes	€500/day
Raw materials	250 000 kg	€1 000/day
Packaging (bags and boxes)	750 000 units	€100/day

SUPPLIERS	
Lead time (days)	1-5
Payment time (days)	20

PRODUCTION CONSTRAINTS	
Capacity (units/day)	16 000
Setup time (hours)	8
Minimum/Maximum Lot Size	16 000/16 000

FIXED COSTS (€ paid each 5 days)*	
Labor	10 000
Manufacturing overhead	7 500
S, G & A	20 000
Depreciation (Building)	1 250
Depreciation (Equipment)	33 333

\*Billed automatically



UPDATED: Digital Transformation Game

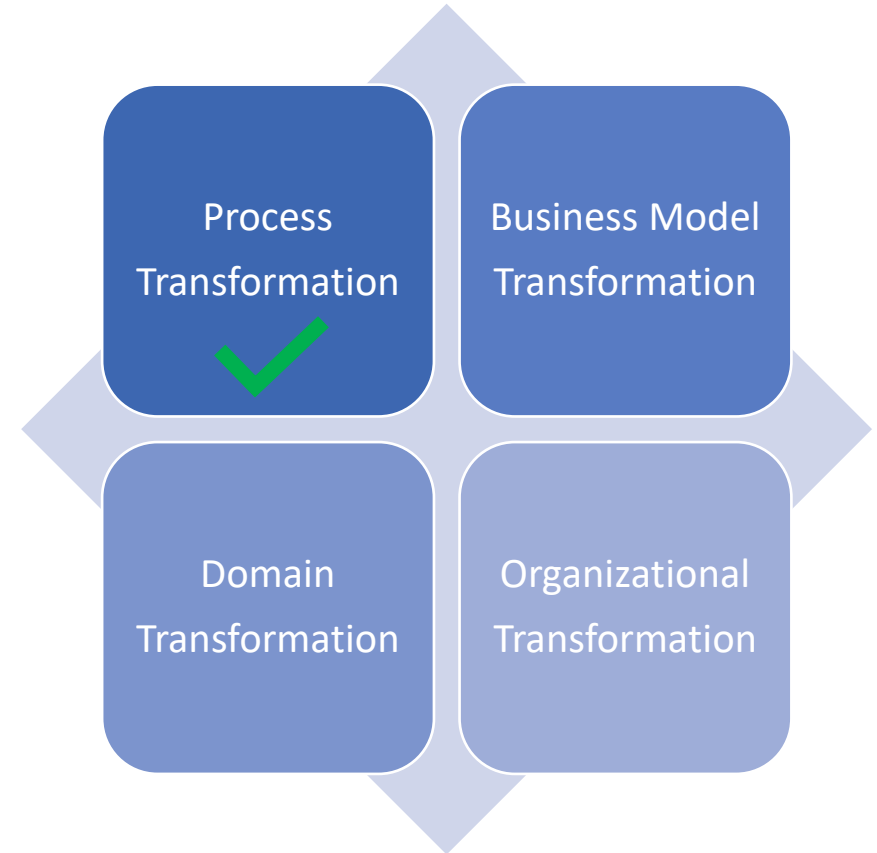
# Curriculum Objectives

1. Simulate and experience a Digital Transformation journey
2. Not to learn SAP or ERP systems
3. Have a **conversation** with students and create **discussion**
4. Understand that **technology is necessary but not sufficient** to guarantee the success of digital transformation initiatives and that **effective change management** is equally important;
5. Learn to **critically reflect on prior experiences** with digital transformation initiatives and on why these initiatives did or did not **deliver value** to the organization;

# Types of Digital Transformation

## The ERPsim Digital Transformation Game focuses on **Process Transformation**

- Evaluating and improving processes
- Rethinking current strategies
- Change management due to introduction of new technology





UPDATED: Digital Transformation Game

# ERPsim Digital Transformation Experience

## Target Audiences

- Non-IT executives such as MBA or Executive MBA students
- Graduate programs in MIS
- Courses with focus on digital transformation
- Courses with focus on change management

## Format

- In-person, remote, or hybrid
- 6 to 8 hours of class time
- Full-day events or multiple sessions

UPDATED: Digital Transformation Game

# Teaching Notes

- Outlines the **most comprehensive** game design:
  - Flexible and **customizable**
  - Presents **alternative endings**
- Provides **discussion and debrief** points for every round
- Provides detailed **prep steps** for students and instructors:  
**before/during/after** each round

<https://erpsim.hec.ca/en/node/755>

The ERPsim Digital Transformation Game:  
**Teaching Notes**



Stefan Tams, Ph.D.  
Wietske Van-Osch, Ph.D.  
Pierre-Majorique Léger, Ph.D.

**WITH THE COLLABORATION OF**  
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ERPsimLab  
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# Questions

# Leap Year Sustainability Challenge



**ERPsim Challenge**  
**Leap Year (Logistics Sustainability)**  
Student Friendly Competition

Feb 1-29, 2024 • Online • Asynchronous

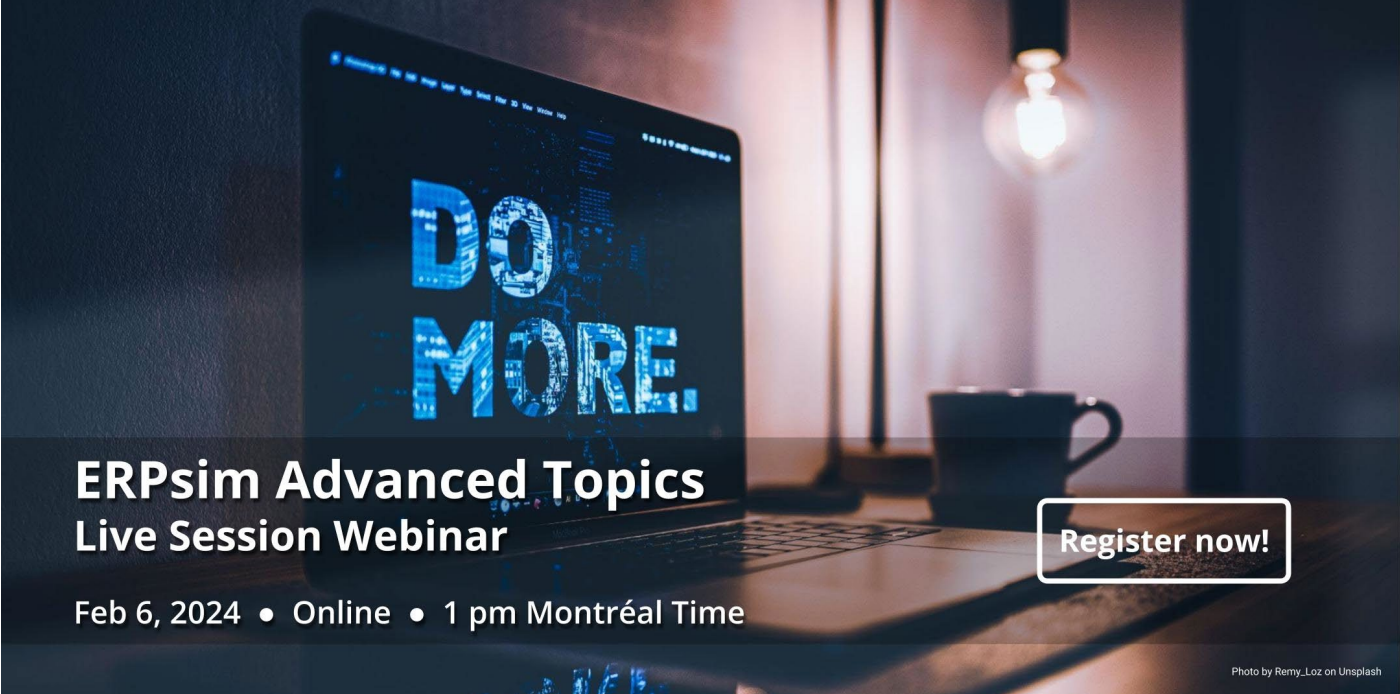
[Register now!](#)

Photo by Devostock Public Domainsh

- Month-long competition
- Logistics Sustainability
- Asynchronous
- Weekly brainteasers
- SAP UA Full Members
- One team per University

# Advanced Topics

- Run ERPsim unattended
- Activate “Easy Login”
- Maximize Company Sets use
- Reuse market preferences
- Recover from playing mistakes
- Bring twists during gameplay
- ....



**ERPsim Advanced Topics**  
**Live Session Webinar**

Feb 6, 2024 • Online • 1 pm Montréal Time

[Register now!](#)

Photo by Remy\_Loz on Unsplash

# SAP NAAC 2024 & ERPsim UGM

Save the Date

**Jun 17-20, 2024**

ERPsim Lab 20<sup>th</sup> Anniversary Celebration

Montréal, Canada



# Thank You!

Website: [erpsim.hec.ca](http://erpsim.hec.ca)

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