

ERPsim

Start of Term Webinar / 2023 Edition

Please Note

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Webinar
Online | August 9, 2023

ERPsimLab
HEC MONTRÉAL

Serious games to learn enterprise
systems and business analytics

Agenda

1. Welcome
2. Teaching SAP using ERPsim testimonial
3. Highlights 2022-2023
4. ERPsim licensing, training, certification
5. ERPsim 2023-2024
 - ▶ New Game(s)
 - ▶ New and improved features
6. Q&A

Testimonial

Teaching SAP
using ERPsim:
Past, present and future
at Sherbrooke University

ERPsim Academic Edition 2023

ERPsim © 2004-2023, ERPsim Lab, HEC Montréal.



Olivier Caya, Ph.D.

Professor

Department of Information Systems
and Quantitative Management Methods

Sherbrooke University

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" in different markets

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.

BÂTON

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 2023



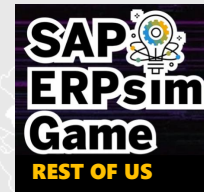
Mar 31, 2023



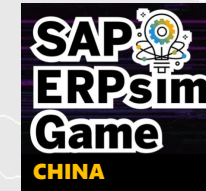
June 8, 2023



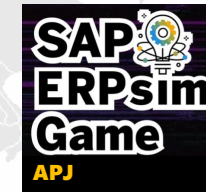
May 12, 2023



May 26, 2023



Jan 17, 2023



Mar 31, 2023



Mar 24, 2023



Apr 20, 2023

ERPsim Licensing Options

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 days, recruitment days, intra-university games, intro courses)
Limited access to instructional assets

Free use for research

For qualified experimental research

Pricing and Support

ERPsim License

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

Effective price from August 1st 2023 to July 31st 2024.

May change at anytime.

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

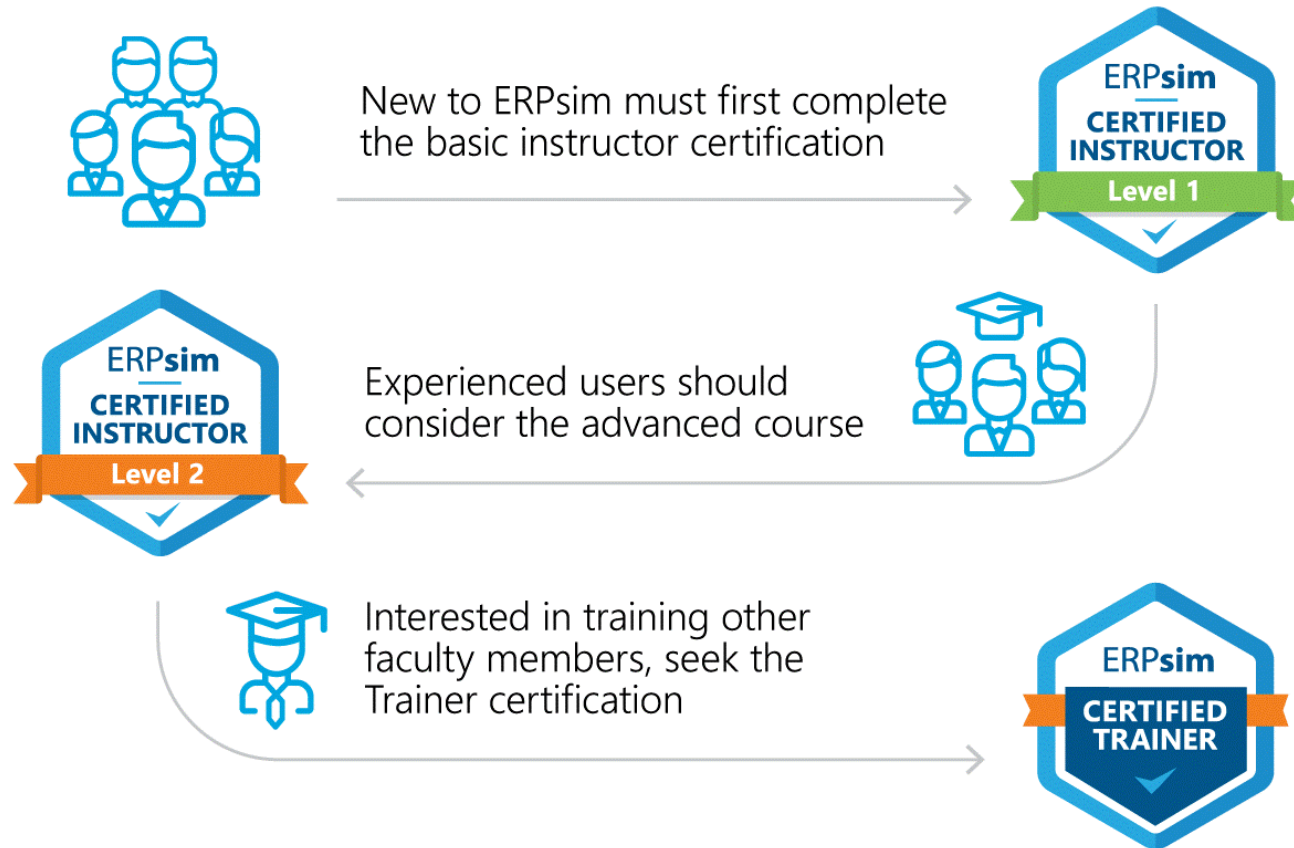
In the event of a disparity between the price presented on this slide and the one on <https://erpsim.hec.ca/buy>, the latter shall prevail.

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



Training available as a
self-paced online course
and
in-person

Get started at
erpsim.hec.ca/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

SAP System

Version

SAP S/4HANA 2022

Supported UI

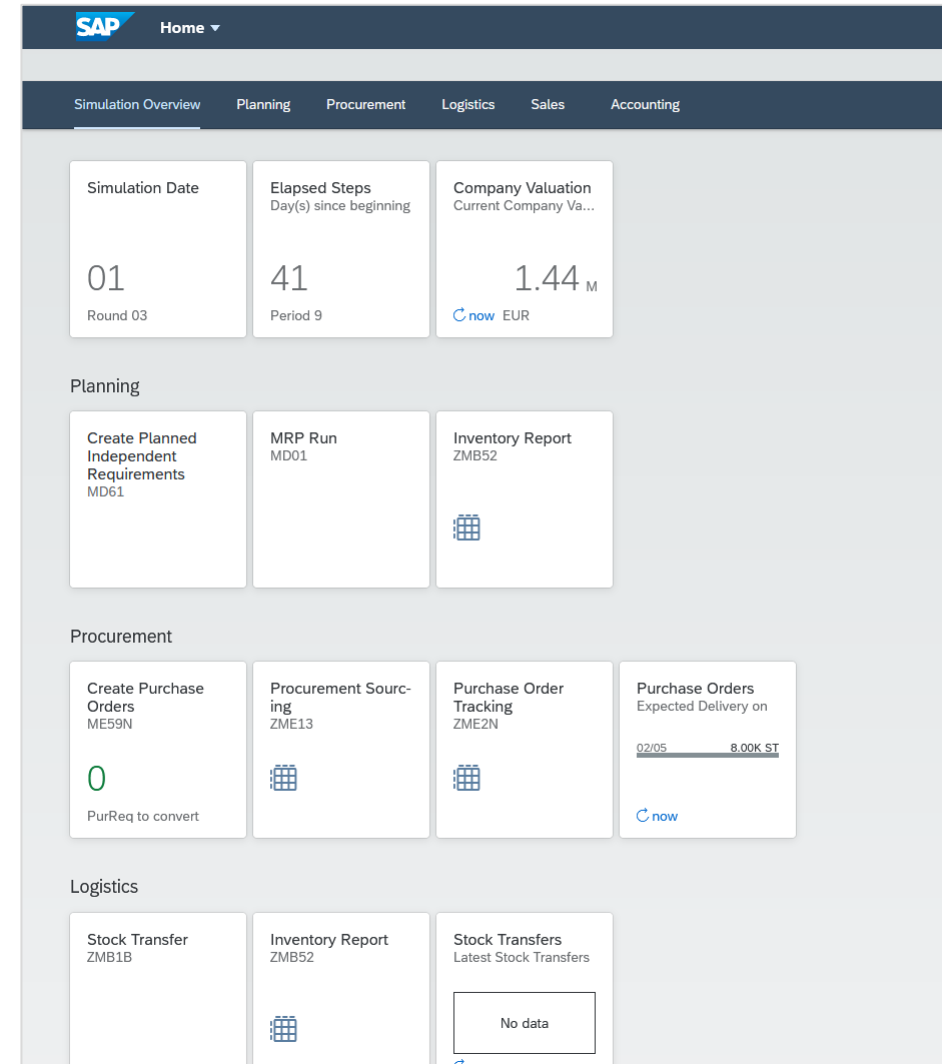
SAP Fiori and SAP GUI

Analytics

SAP standard reports
Smart Business
OData Service 2.0

Languages
(BETA)

English, French, Spanish,
German

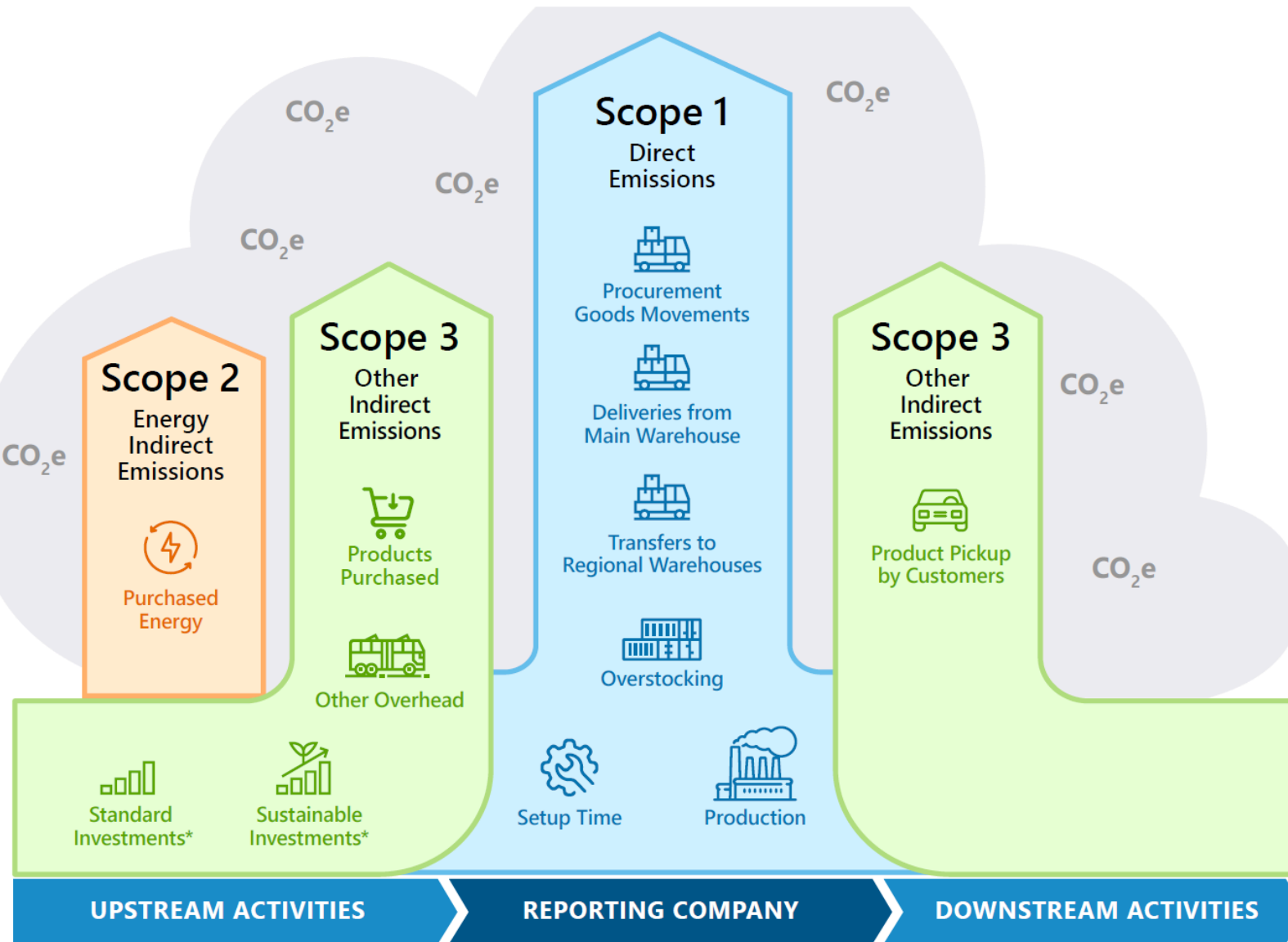


SAP Fiori Launchpad configured for the Logistics Extended game

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 now has 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 Int](#)[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

External Links
ZLINK

Scrap Inventory
ZSCRAP

Loan Repayment
ZLOAN

0

Account(s) locked

Troubleshooting

Process Goods Movements Errors
COGI

0

Error(s) found

Predefined Confirmation Processes
CO1P

Rejected Production Orders
ZREJECTED

! 1

Release(s) Rejected

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



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)

ZSCRAP

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


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

ZRPA – AI-based Forecast for Digital Transformation Curriculum

 AI-Based Forecast Calculation


Menu  

AI Calculation Parameters

	Sales Prices(€)	Moving Costs(€)	Margin(€)
Milk	<input type="text" value="25.25"/>	<input type="text" value="22.95"/>	<input type="text" value="2.30"/>
Cream	<input type="text" value="79.78"/>	<input type="text" value="72.07"/>	<input type="text" value="7.71"/>
Yoghurt	<input type="text" value="28.43"/>	<input type="text" value="25.85"/>	<input type="text" value="2.58"/>
Cheese	<input type="text" value="90.95"/>	<input type="text" value="82.68"/>	<input type="text" value="8.27"/>
Butter	<input type="text" value="65.87"/>	<input type="text" value="59.88"/>	<input type="text" value="5.99"/>
Ice Cream	<input type="text" value="47.47"/>	<input type="text" value="43.15"/>	<input type="text" value="4.32"/>

Planning Horizon: Days

Maximum Total Planned Independent Requirements: Units






Suggested Forecast (units):


Milk	<input type="text"/>
Cream	<input type="text" value="287"/>
Yoghurt	<input type="text" value="1845"/>
Cheese	<input type="text" value="572"/>
Butter	<input type="text" value="592"/>
Ice Cream	<input type="text" value="704"/>

Expected Total Planned Independent Requirements:



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 ▾

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	Purchase
Setup Time Reduction	0000478000	0.00	<input type="text"/>	2,000.00	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	Purchase
Sustainable Manufacturing	0000011099	0.00	0.00	10,000.00	15.00	2,000.00	Purchase

ZFB50 – Investments

< **SAP** ERPsim Control Panel

Manufacturing Introduction

Menu Refresh Data

OverviewCarbon ImpactSuppliersGoods MovementsOverstockOverheadLogisticsReports ManagementProductionInvestments

Investments Management

☒ Activate Investments Management

Activate Transaction ZFB50: Round 1

Standard Investments

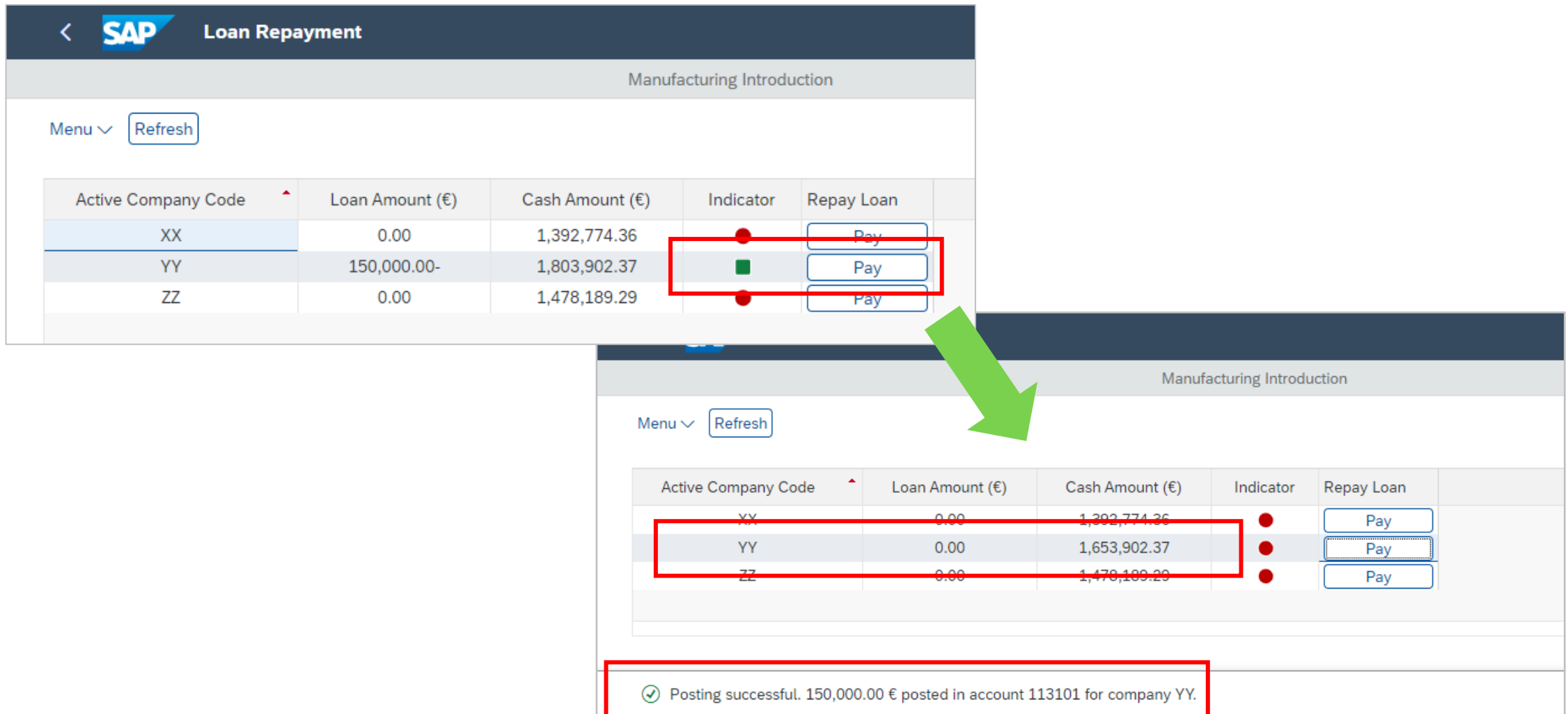
	Account	Threshold	Carbon Emissions	
Capacity Improvement	0000011000	1,000,000.00	<div>1,000.00</div>	kg/Threshold
Setup Time Reduction	0000478000	1,000,000.00	<div>2,000.00</div>	kg/Threshold

Sustainability Investments

	Account	Threshold	Carbon Emissions	Carbon Reduction	Maximum Reduction
<input checked="" type="checkbox"/> Freight Fleet Improvements	0000011098	10,000.00	<div>2,000.00</div>	15.00 %	45.00 %
<input checked="" type="checkbox"/> Sustainable Manufacturing	0000011099	10,000.00	<div>2,000.00</div>	15.00 %	45.00 %

Reset ModuleSave 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	https://erpsim.hec.ca/content1
Round 2	https://domain:port/target
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 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

PlantAA

ScenarioManufacturing

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

26

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

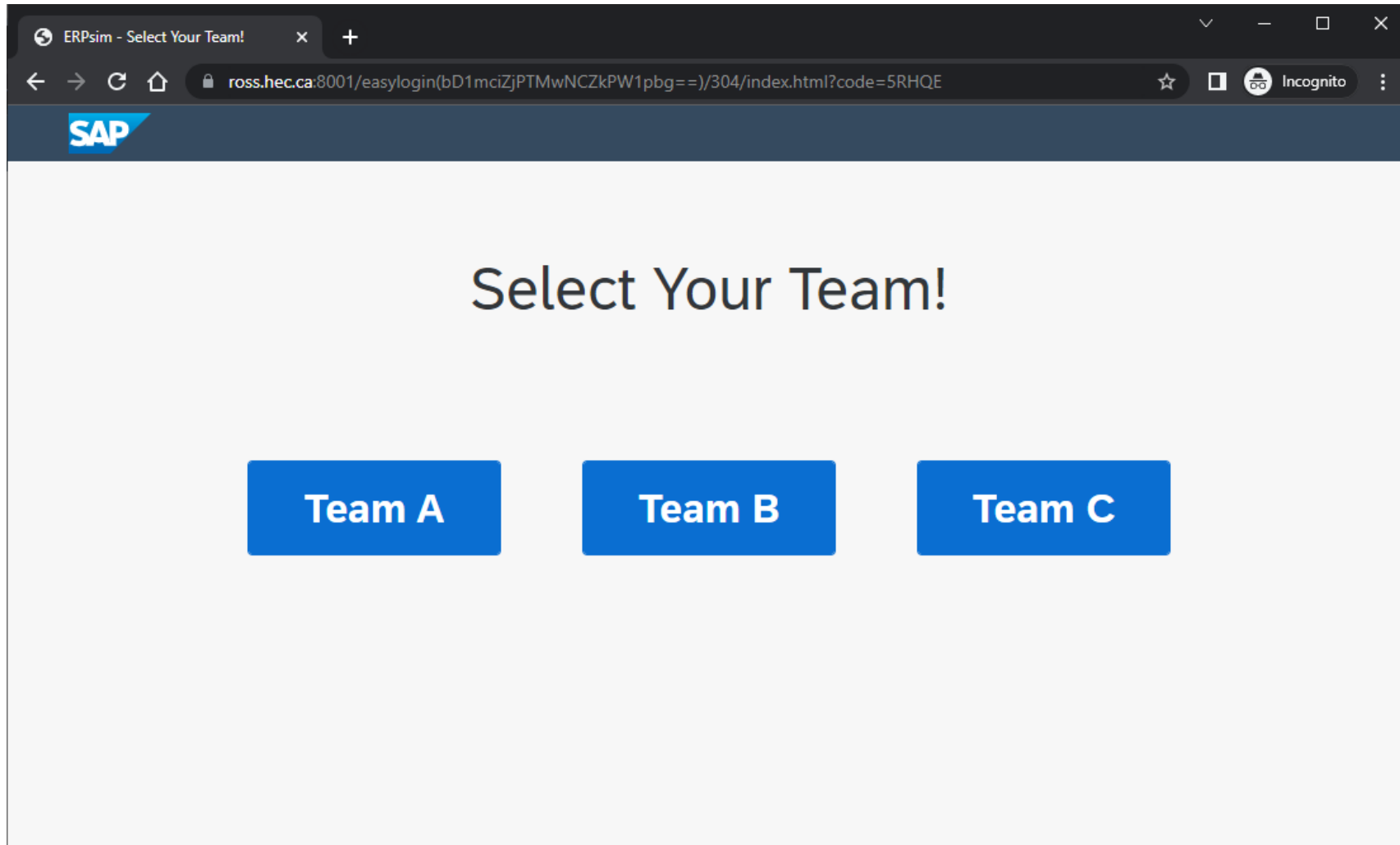
Easy Login

The screenshot displays the SAP ERPsim Client Setup application. The main window has a dark header with the SAP logo and the title 'ERPsim Client Setup'. Below the header, there is a navigation bar with tabs: 'Menu', 'Execute', 'Company Code Status', 'User Management', 'OData Set(s) Selection', 'Financial Summary', 'Options', and 'About'. The 'Options' tab is currently selected. The main content area is divided into 'Simulations' and 'Exercises' sections. Under 'Simulations', there is a section titled 'Prepare client for which game?' with a list of options: 'Manufacturing Game (Muesli)', 'Introduction' (selected), 'Extended', 'Sustainability', and 'Advanced'.

Overlaid on the main window is a dialog box titled 'ERPsim - Client Options'. The dialog has a close button (X) in the top right corner. It contains two sections:

- Usage Logs (Z* transactions only)**: This section has a checkbox labeled 'Log usage data in table /BATONSIM/LOG' which is currently unchecked. To the right of this checkbox is a button labeled 'Display Log'.
- Easy Login**: This section is highlighted with a red border. It contains a checkbox labeled 'Activate Easy Login page' which is checked. To the right of this checkbox is a button labeled 'Generate URL'. Below the checkbox, the URL 'https://ross.hec.ca:8001/easylogin/304?code=5RHQE' is displayed.

Easy Login



Job Aids, Slides, Guides, Videos

- All job-aids, slides and guides updated for academic year 2023-2024
- Available in English and French
- Available by August 18
- For videos, available with French, English, and Spanish subtitles



Manufacturing Introduction Game

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

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



Nut	Blueberry	Strawberry	Raisin	Original	Mixed
SS-F01 SS-F11 500g 1kg	SS-F02 SS-F12 500g 1kg	SS-F03 SS-F13 500g 1kg	SS-F04 SS-F14 500g 1kg	SS-F05 SS-F15 500g 1kg	SS-F06 SS-F16 500g 1kg
Starting Inventory: 30 000 units each	Starting Inventory: 30 000 units each	Starting Inventory: 30 000 units each	Starting Inventory: 30 000 units each	Starting Inventory: None	Starting Inventory: None
35% wheat 35% oat 30% nut 1 box / 1 bag	35% wheat 35% oat 30% blueberry 1 box / 1 bag	35% wheat 35% oat 30% strawberry 1 box / 1 bag	35% wheat 35% oat 30% raisins 1 box / 1 bag	50% wheat 50% oat 1 box / 1 bag	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

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

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

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



2/2

Questions

Thank You!

Website: erpsim.hec.ca

Email: erpsim@hec.ca