

MICHIGAN STATE

UNIVERSITY

Project Plan Presentation

GHG Scope 3 Automation

The Capstone Experience

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*From Students...
...to Professionals*

Project Sponsor Overview

- One of the original plant-based food companies
- Serves both the domestic and over 180 international markets
- Nourishing communities with famous brands: Nutri-Grain[®], Frosted Flakes[®], Pop-Tarts[®], and Rice Krispies[®] Treats



Project Functional Specifications

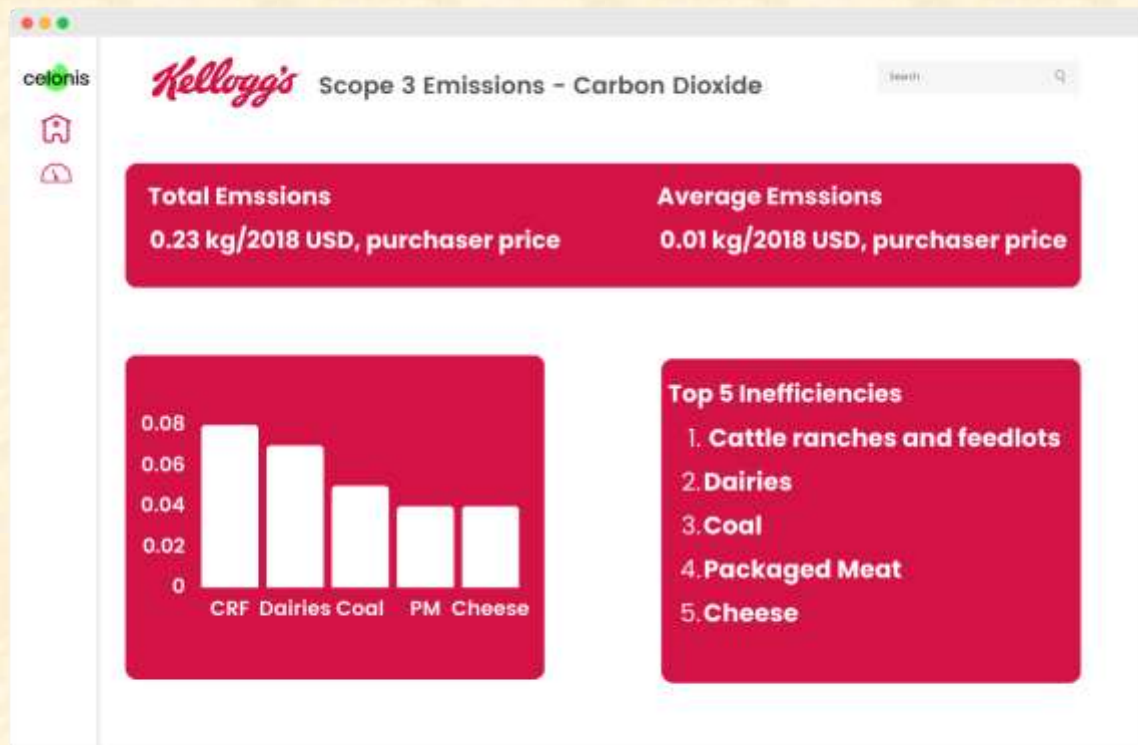
- Calculate the total GHG scope 3 emissions for Kellogg's products
- Automate GHG calculations
- Shows GHG emissions data in an easy to digest dashboard
- Allows users to share real-time emissions data companywide with easy-to-use automations



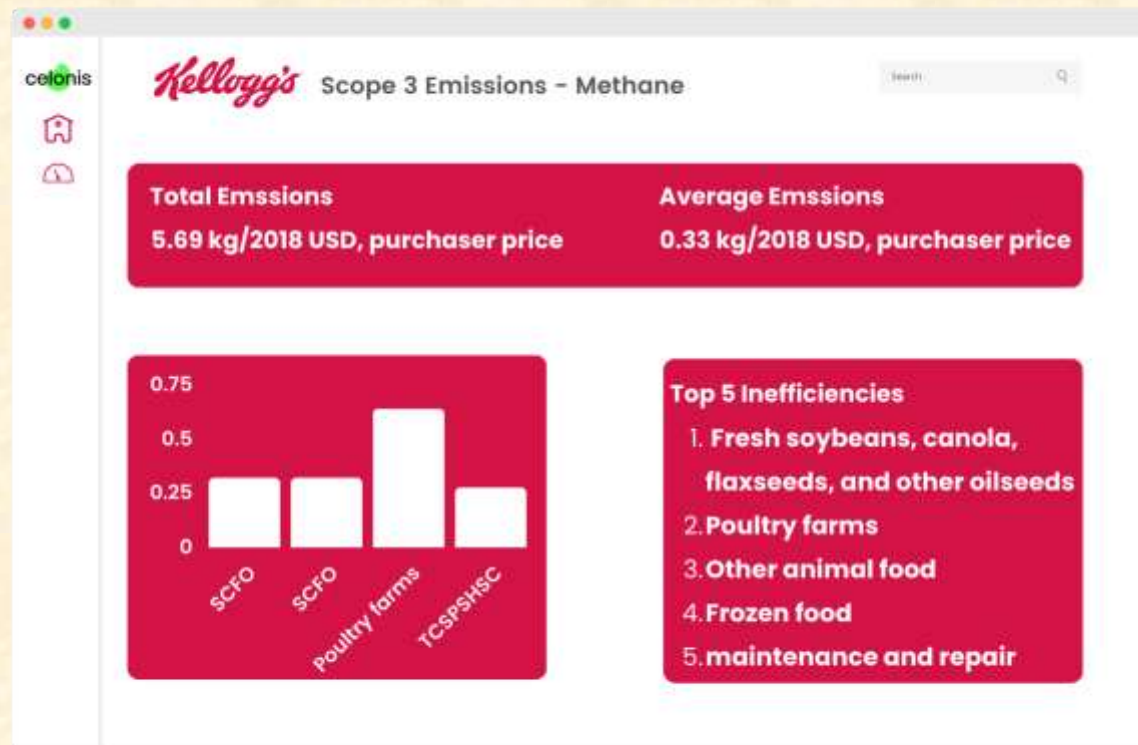
Project Design Specifications

- Present relevant GHG emission data in charts and graphs in a Celonis dashboard accessible by Kellogg's employees
- All calculations will be summarized and organized in an easy-to-read format that allows for data exploration
- Clickable components that allow the user to explore what each metric means and get a view of the underlying data

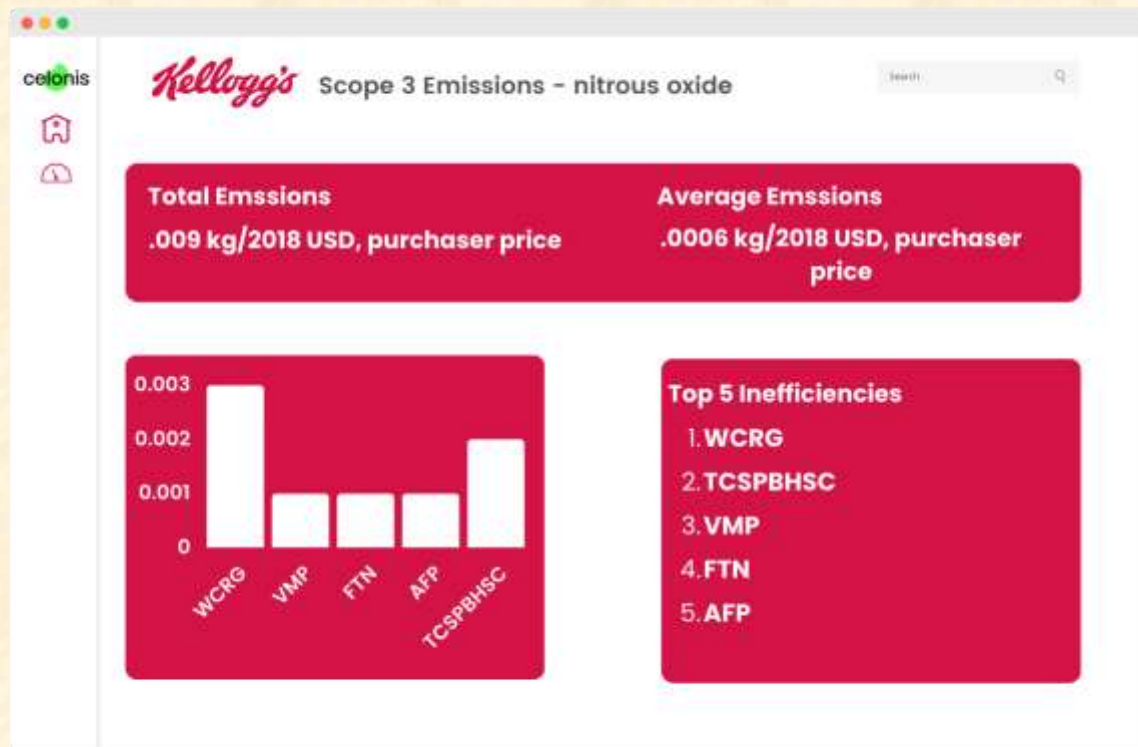
Screen Mockup: CO₂ Dashboard



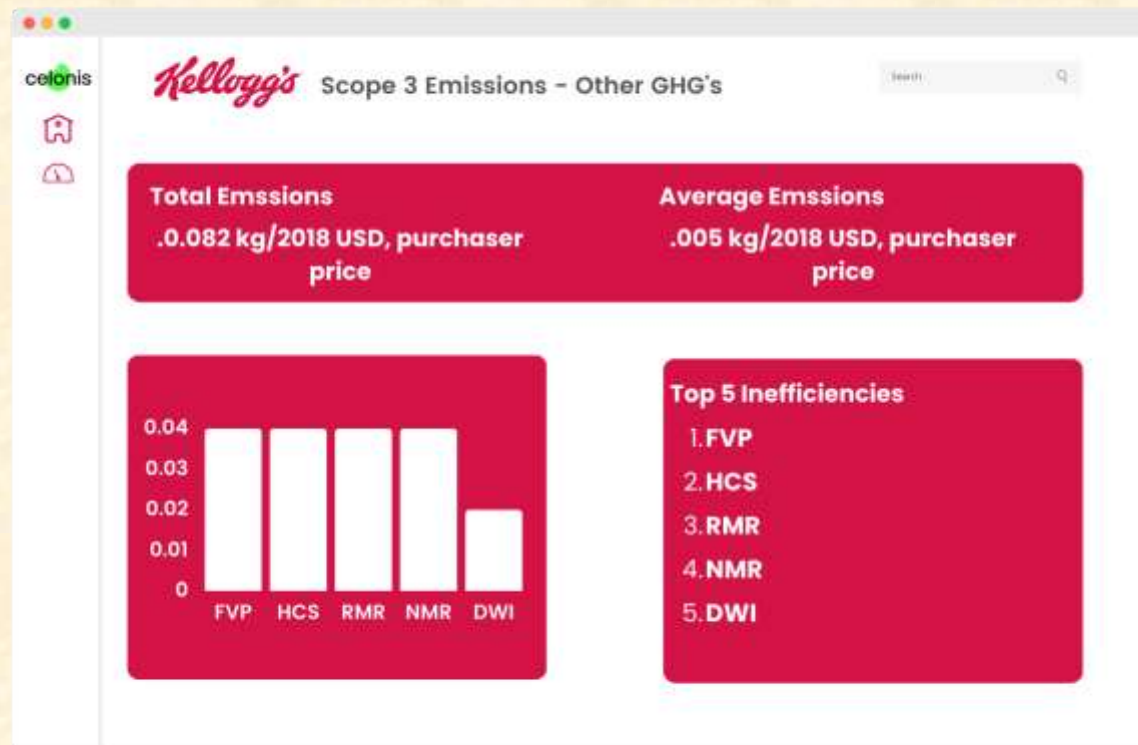
Screen Mockup: CH₄ Dashboard



Screen Mockup: N₂O Dashboard



Screen Mockup: Misc. GHG Dashboard

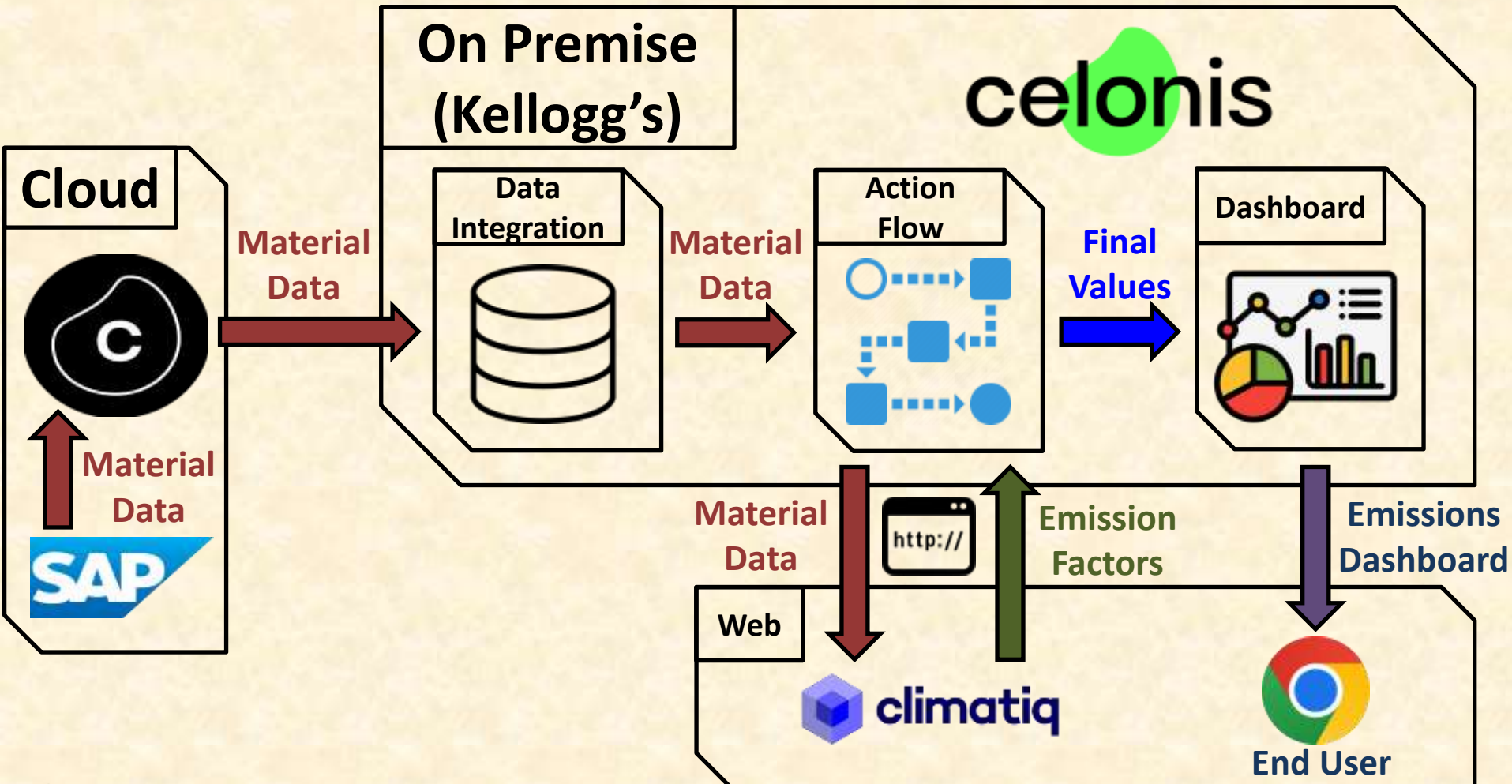


Project Technical Specifications

- Extract material records from SAP database to Celonis via Celonis extractor
- Send GET request via action flows for each unique material type to get emission factor
- Compute emission totals for each material via PQL statements
- Build analysis dashboard and generate report with emission totals
- Create automation for emissions report distribution



Project System Architecture



Project System Components

- Software Platforms / Technologies
 - SAP
 - Celonis
 - Climatiq



Project Risks

- Risk 1
 - Verifying accuracy of GHG emissions calculations
 - Run past years' SAP data through the automated dashboard and compare the results to the hand-calculated ones from previous years
- Risk 2
 - Integrating Climatiq API with Celonis
 - Explore the capabilities of the Celoxtractor and its compatibility with Climatiq API as well as working with Celonis experts
- Risk 3
 - Number of Climatiq API requests from Celonis
 - Find alternate way of pulling data from the Climatiq API
- Risk 4
 - Relating internal material names to Climatiq activity ids
 - Collaborate with ESG staff, meet with Celonis technical experts, go through Climatiq name mapping documentation



Questions?

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