

# BUILD YOUR FUTURE OPERATION IN 3D

Using AI-Powered Spatial Intelligence to Design Facilities  
BCOR 440 / IE 425 • AI in Operations & Supply Chain Management

## What You're Building

You're going to use WorldLabs Marble — an AI tool that creates explorable 3D worlds from text and images — to design a future-state facility for your business. Think of it as bringing your operations strategy to life in a way you can actually walk through.

**This is the kind of output that belongs on your LinkedIn. Seriously.**

## Why This Matters

Companies like **Amazon, Tesla, and BMW** already use AI-powered spatial tools to design and test facilities before breaking ground. WorldLabs Marble represents the cutting edge of **spatial intelligence** — AI that understands 3D space the way humans do. By doing this activity, you're not just completing an assignment. You're getting hands-on experience with technology that's reshaping how operations are designed.

## Step-by-Step Instructions

### Step 1: Choose Your Facility Type

Pick a facility that connects to your major or interests. Here are some ideas:

If You're Into...	Try Designing...	Operations Angle
Marketing	A modern retail flagship store	Customer flow, layout, experience design
Finance	A fintech operations center	Workstation layout, security zones, capacity
Accounting	A shared services hub	Process flow, ergonomics, workspace efficiency
Management	A startup's HQ or coworking space	Collaboration zones, scalability, culture
MIS	A data center or IT command room	Server layout, cooling, redundancy planning

Operations	A smart warehouse or factory floor	Material flow, bottlenecks, lean layout
Healthcare	A clinic or pharmacy operations area	Patient flow, sterile zones, throughput
Food/Hospitality	A ghost kitchen or coffee roastery	Workstation design, throughput, safety

## Step 2: Write Your Operations Brief (5 min)

Before you touch Marble, think like an operations manager. Jot down quick answers to these:

- What does this facility produce or deliver?
- Who are the customers or end users?
- What's the biggest operational challenge this space needs to solve? (bottleneck? safety? speed? customer experience?)
- What's one design choice you'd make to address that challenge?

**Pro tip:** This brief will make your Marble prompts way better. Vague input = vague output.

## Step 3: Create Your Account & Explore

1. Go to [marble.worldlabs.ai](https://marble.worldlabs.ai) and sign up for a free account.
2. Spend 2–3 minutes browsing the **Gallery** to see what's possible. Look for worlds tagged with interiors, architecture, or industrial spaces.
3. Click **Create** to start building.

**⚠ Credit Alert:** The free tier gives you a limited number of generations. Don't burn them experimenting randomly! Read Step 4 first so your prompts count.

## Step 4: Generate Your 3D Facility

You have two paths. Pick whichever fits your style:

### Option A: Text Prompt (Fastest)

Type a detailed description directly into Marble. The more specific you are, the better the result.

*Example prompt:*

*“Modern smart warehouse interior with automated conveyor systems, organized picking stations with bright lighting, safety markings on the floor, industrial shelving units reaching to high ceilings, a quality inspection area near the shipping dock, and digital displays showing real-time inventory data.”*

### Option B: Image → 3D World (Best Results)

- Use an AI image generator (ChatGPT/DALL-E, Midjourney, or any tool you like) to create a **photorealistic reference image** of your facility interior.
- Upload that image to Marble and let it transform it into a full 3D world you can explore.

### Tips for Better Results

- Photorealistic images work best. Marble was trained on real-world 3D scenes, so cartoon or sketch-style inputs produce lower-quality results.
- Include spatial keywords like “interior,” “wide-angle,” “open floor plan,” or “industrial space.”
- Mention specific equipment, zones, or features that reflect your operations thinking (e.g., “quality inspection station,” “kanban board on the wall”).
- Generation takes ~30 seconds. Once it’s done, use your mouse/trackpad to explore the 3D space!

## Step 5: Capture & Share Your World

Once you’re happy with your 3D facility:

- **Get your share link:** Each Marble world has a unique URL. Copy it so anyone can explore your facility in their browser.
- **Take screenshots:** Capture 2–3 interesting angles that highlight your design choices (the front entrance, the production floor, the customer-facing area, etc.).
- **Record a walkthrough (optional but awesome):** Use Marble’s video export or a screen recording tool to create a short flythrough of your facility. This is LinkedIn gold.

## Step 6: Connect It Back to Operations

This is what separates a cool demo from a meaningful learning experience. Prepare a short write-up (or be ready to discuss in class) covering:

Question	What You’re Demonstrating
What type of facility did you design, and why?	Strategic thinking & alignment to business goals
What operational challenge does your layout address?	Problem identification (bottlenecks, flow, capacity)
What specific design choices reflect operations concepts we’ve covered?	Application of course material (lean, layout, process flow)
What would you change if you had unlimited AI credits to iterate?	Continuous improvement mindset
How could spatial AI tools like this change facility planning in your industry?	Technology awareness & forward thinking

## What to Submit

- Your Marble world share link (so we can explore it!)
- 2–3 screenshots showing different angles of your facility
- Your operations brief (from Step 2) — a few sentences is fine
- Your reflection answers (from Step 6) — a short paragraph per question

**Bonus:** Post your 3D walkthrough on LinkedIn with a caption about how AI is changing facility design. Tag it #BCOR440 and #SpatialAI. You'd be surprised how many recruiters notice this kind of thing.

## Quick Troubleshooting

Problem	Fix
"My world looks blurry or weird"	Try a more photorealistic input image. Marble works best with images that look like real photographs, not illustrations or sketches.
"I ran out of free credits"	Be strategic! Use your operations brief to write one strong prompt instead of experimenting randomly. You can also explore other users' published worlds in the Gallery for inspiration.
"The space doesn't look like what I described"	Add more spatial detail to your prompt. Include words like "interior," "wide-angle view," "open floor plan," and name specific zones or equipment.
"I can't navigate the 3D space"	Use your mouse to click and drag to look around. Scroll to zoom. It works best on desktop, and some features aren't available on mobile yet.
"The world is too small"	Use the Expand feature to grow your world outward from the initial scene. Click on unexplored edges to generate more space.

*"The factory of the future will have only two employees: a man and a dog. The man will be there to feed the dog. The dog will be there to keep the man from touching the equipment." — Warren Bennis*  
(Your 3D facility is the first step toward proving him wrong.)