Using AI to Expand the Creative Space in Product Conceptualization

5 Critical Aspects of New Offerings

- ▶ **Corporate product line borders**

- ▶ **Market positioning changes**

- ▶ **Driving demand creation and product attractiveness**

- ▶ **Product and service line extensions**

- ▶ **Incorporating new technologies into current offerings**

**How do we get there?**

Corporate Product Line Borders

- **GNoME Project from Google DeepMind**
  - **2.2 million new inorganic crystalline compounds (vs <50k known crystals)**
  - **381,000 stable compounds**
  - **Impacts batteries, solar panels, conductors, grid components**
  - **52,000 are promising for electronics and battery storage (vs 1,000 currently)**
  - **528 currently being tested for rechargeable batteries**
  - **Follow-on research shows that a new solar panel structure using a few of the new crystalline structures can replace the most expensive material in solar panels – silicon – and make then more durable, easier to manufacture & produce more than 1,000x the electricity.**
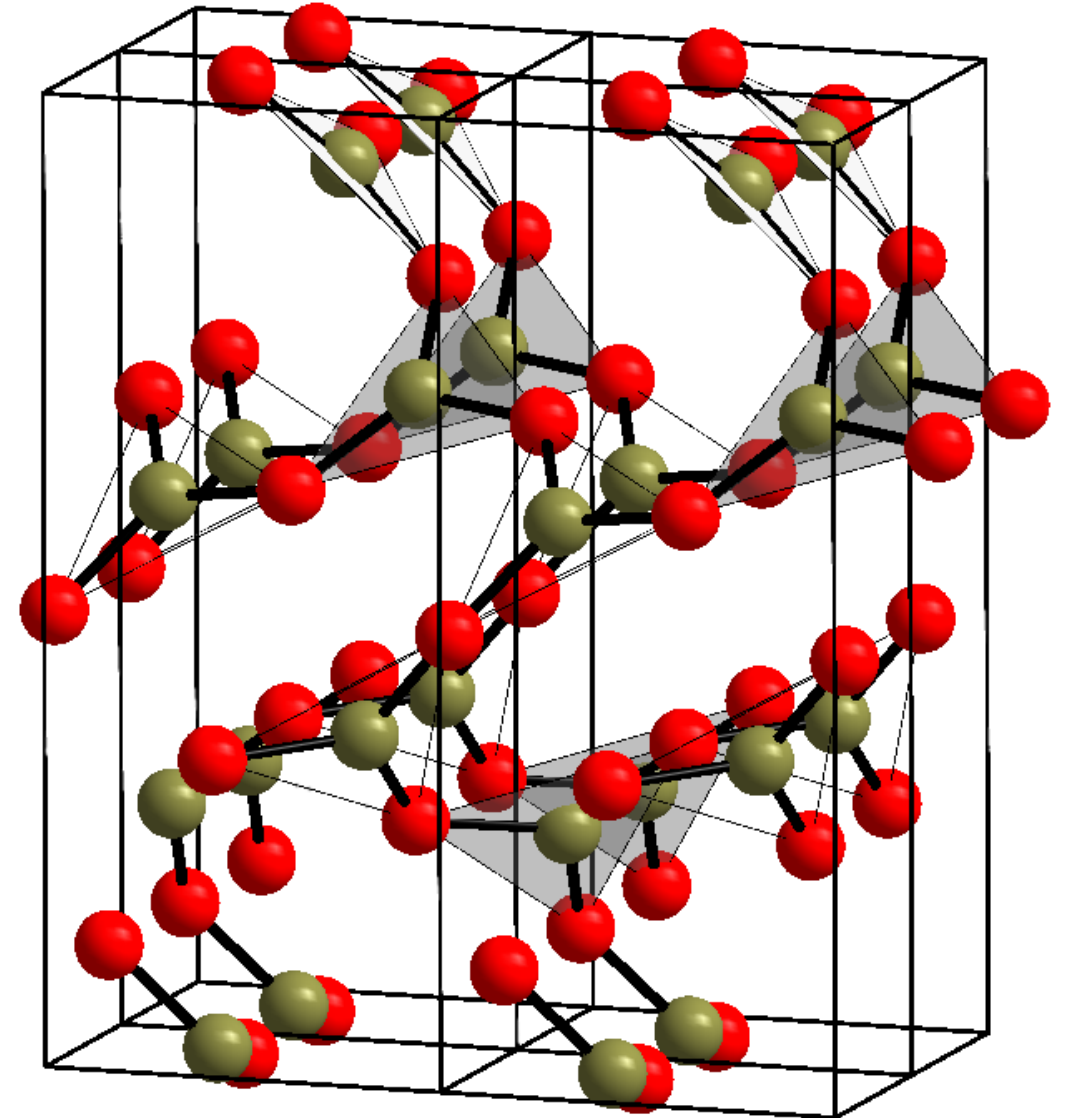
Corporate Product Line Borders

- **MIT researchers use AI to identify a new class antibiotic compounds**
  - **As part of a joint MIT Antibiotics / AI Project, team started with 12,000 theoretical compounds and multiple profiles of the MRSA infection**
  - **Using AI, they reduced the list to 280 compounds candidates, tested them for efficacy and found 2 that worked on MRSA.**
  - **Early tests on mice report that the compounds are 90% effective in reducing the effects of the bacteria.**
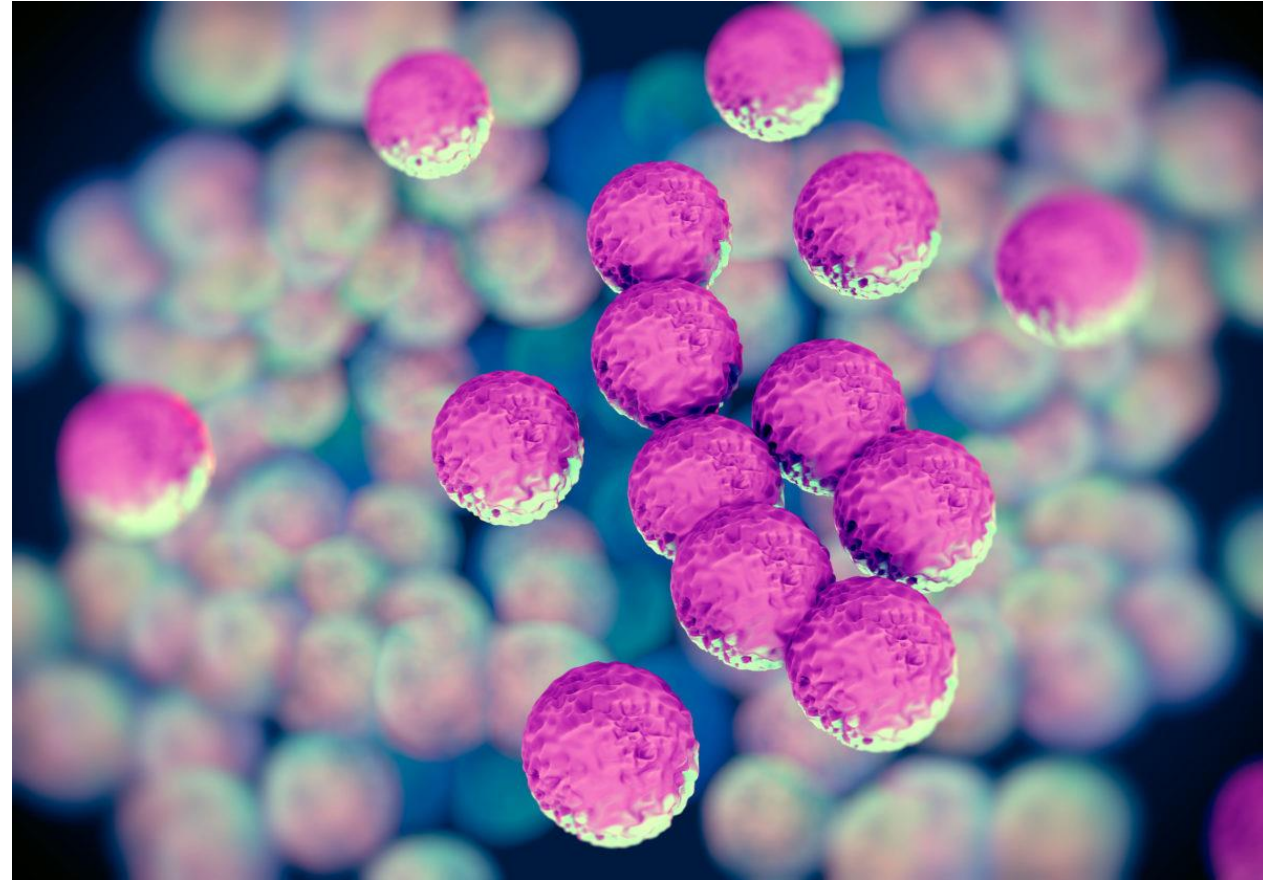
Corporate Product Line Borders

- **AlphaFold 3 began as a project to predict new protein structures**
  - **Already working on drugs with Eli Lilly & Novartis – commercial drugs expected within 2 years**
  - **Primary uses are for genomics research and drug design**
  - **Among the uses are proteins that eat plastics and produce more resilient crops**
  - **Predicts interactions with other compounds, over 80% accuracy in stability tests and goes way beyond just proteins – now encompassing interactions with DNA, RNA and ligands**
  - **Renders accurate drawings of molecular structures**
  - **Immediate impacts in drug discovery, hormone production & DNA repair mechanisms**
  - **Likely uses within 2 years: fertilizer replacements, animal growth and disease protection hormones, human disease vaccines, and DNA repair**

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Market Positioning Changes

- A Strategic Process that produces differentiation, pricing strategy, consumer perception & loyalty, and strategic marketing communications

- Starbucks App

  - Elevating the Brand via improved operational efficiency in stores & driving product innovation

  - Digital & Global Expansion – double their 75M members & support expansion by 20k stores by 2028

  - Optimize labor allocations, manage inventory and easily meet demand

  - Target Market Engagement – employ events, email marketing, push notifications & behavioral segmentation

  - Convenience & Personalization – Mobile Order & Pay , Starbucks Delivers, drink & food recommendations, voice ordering & DeepBrew AI recommendations

 - Customer Focused Positioning – creating convenient & comfortable experiences that play to lifestyle choices

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Driving Demand Creation and Product Attractiveness

- **Predictive Analytics – Amazon Customer Purchase Anticipation system – positions products where they are likely to be needed – 35% less inventory covers greater volume with lower supply chain costs**

- **Personalization @ Scale – Netflix Recommendation Engine – maps profiles of movie and show viewers and ratings against viewer personas – uses the results to include not only what is recommended for the persona but also what scenes to choose to show based upon the personas**

- **Market Intelligence – Nike Country Market Profiles uses buyer profiles adjusted to each country market to determine what inventory to stack locally**
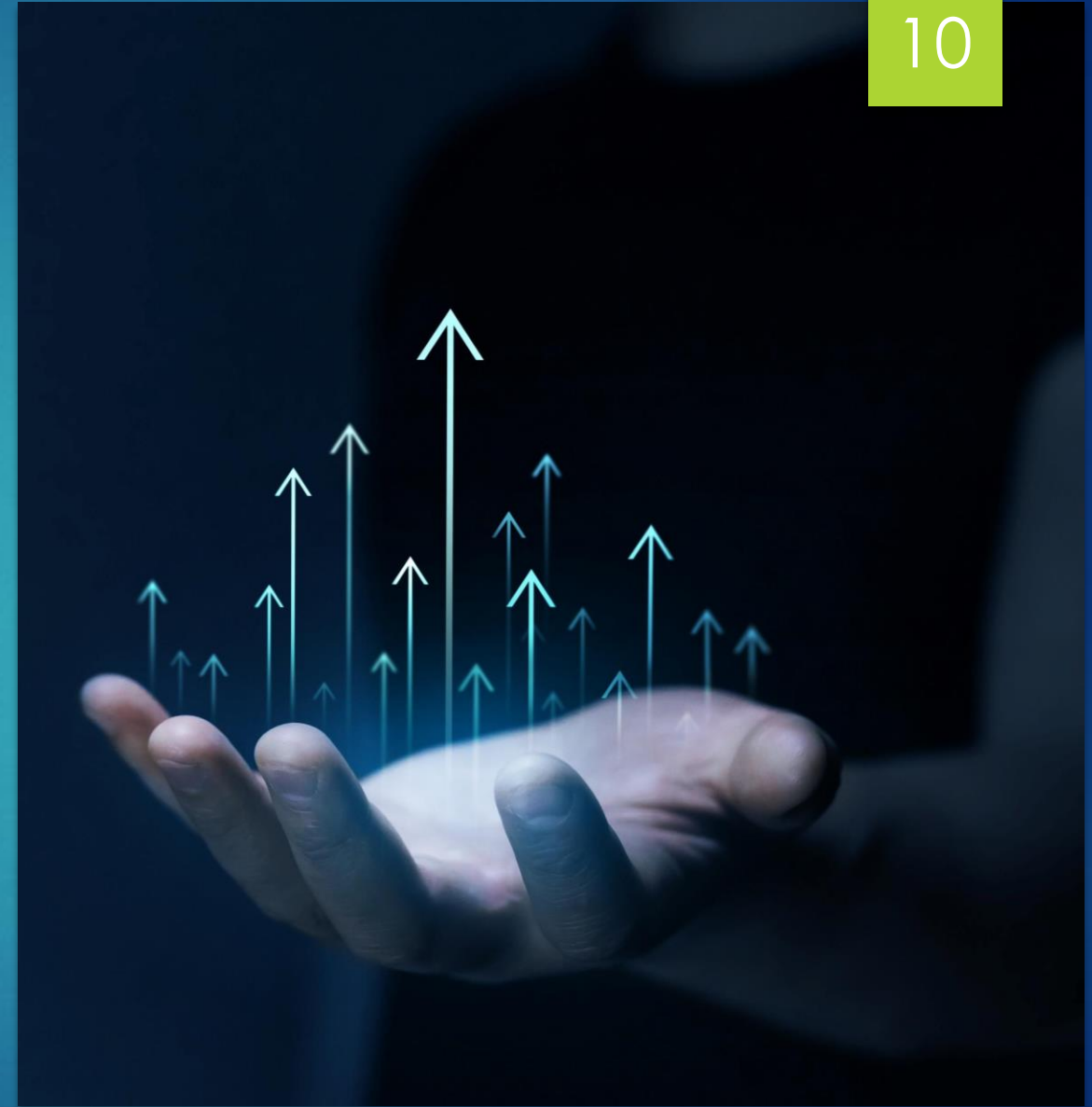
Driving Demand Creation and Product Attractiveness

- **Optimized Pricing Strategies – Wise Athena provides their customer packaged goods companies with software to determine pricing strategies by customer by product by market.**

- **Enhanced Customer Experience – Monitronics' Brinks Home division monitors the customer behavior with their home security systems and makes quarterly personalized recommendations on their use, coverage and potential upgrades to equipment and services. Upgrades per installation have consistently climbed each year.**
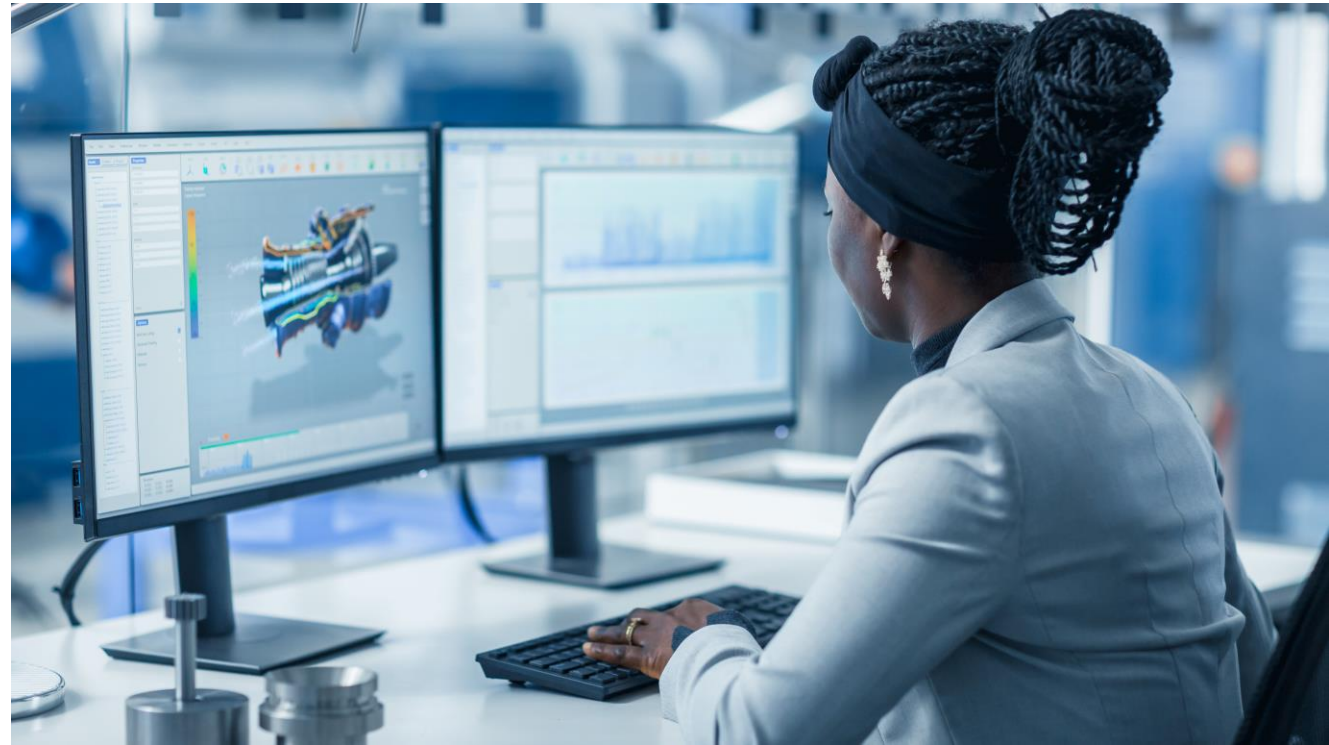
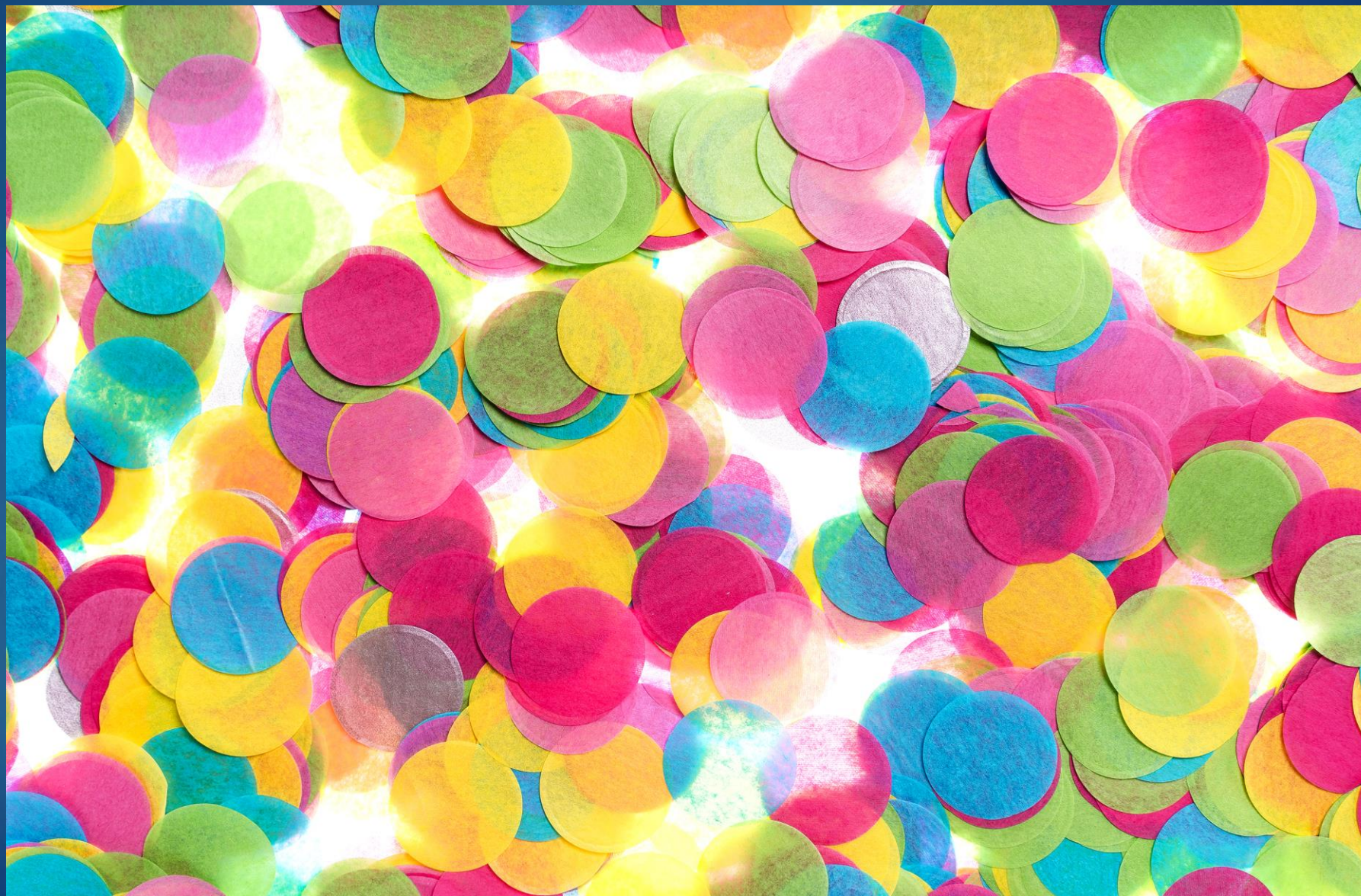# PLAY TIME!
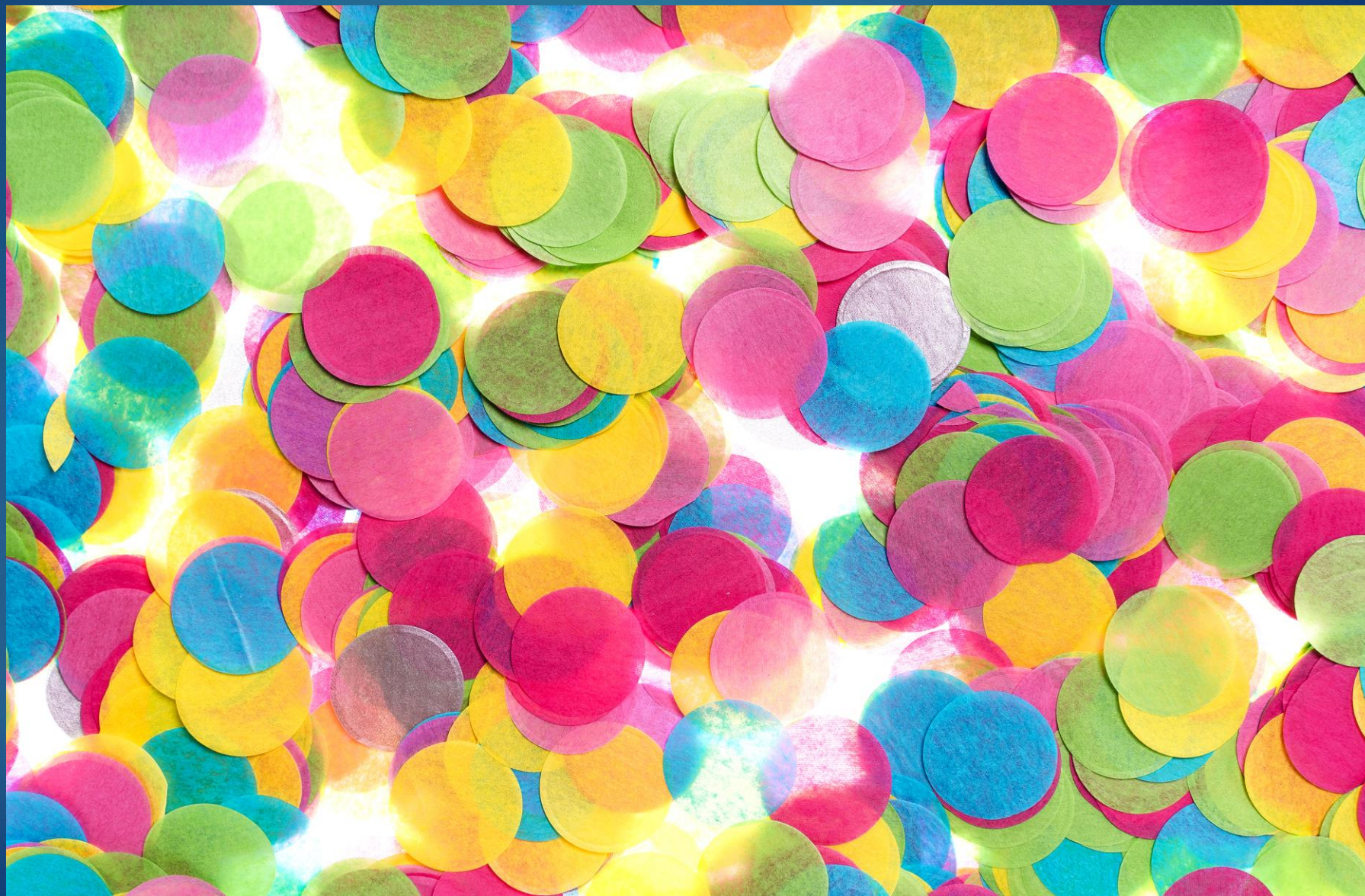
Product and Service Line Extensions

- **IBM's WatsonX Code Assistant for Z (2024 release)**

  - **Converts COBOL code to Java code via Understand -> Transform -> Refactor -> Redevelop -> Test -> Deploy methodology**

  - **COBOL dates from late 1950's and there are > than 800 B lines of code in the banking, telecommunications, healthcare and automotive sectors alone. "If it ain't broke, don't fix it."**

  - **Massively accelerating decrease in COBOL programmer population – young people don't do COBOL**

  - **Market opportunity estimated to be $3-4 B per year starting in 2025 – massive savings ditching mainframe computers in favor of cloud computing - in addition to security, stability, and non-maintainability.**
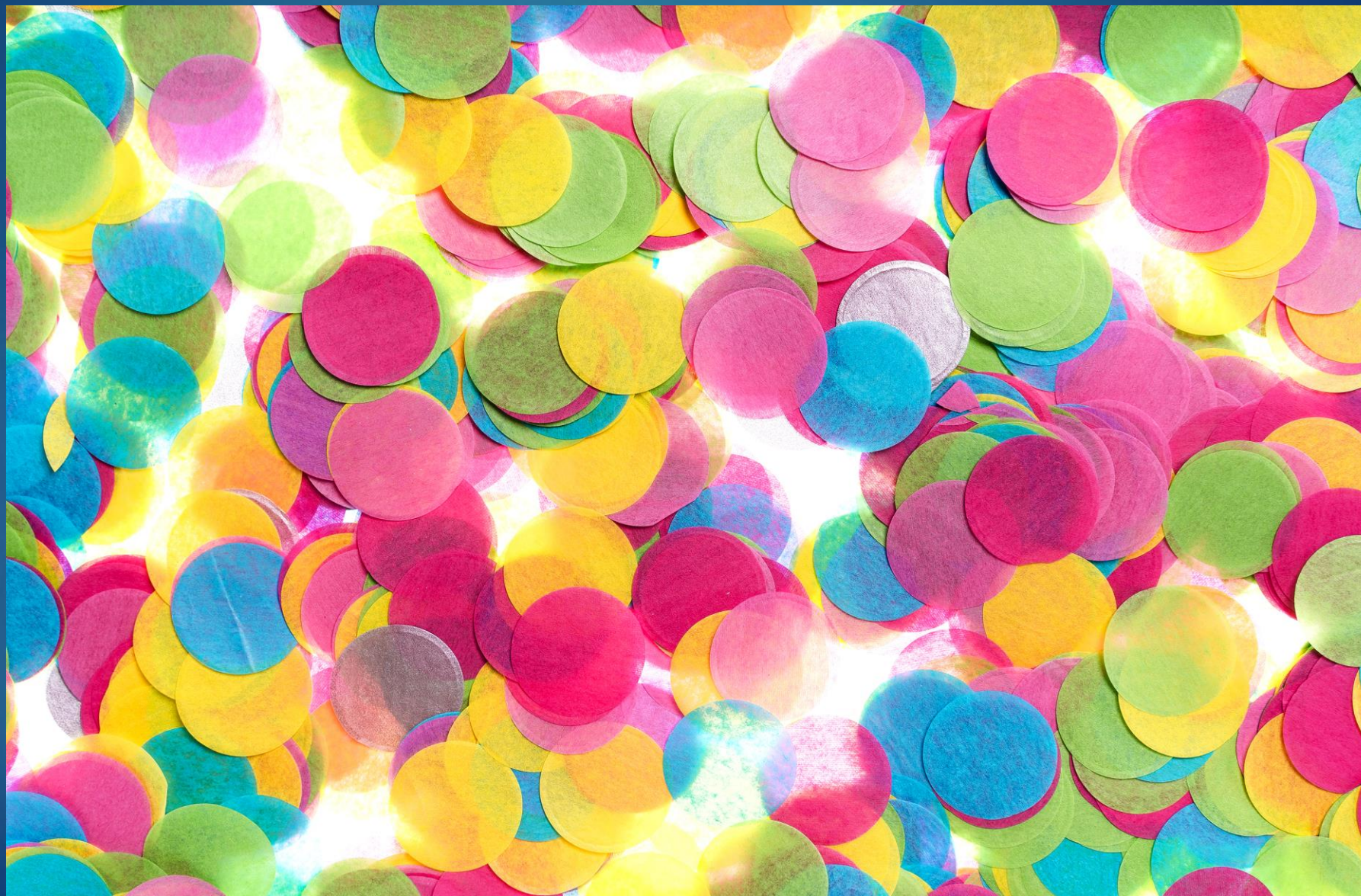
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Incorporating New Technologies into Current Offerings

▶ **Efficient Supply Chain Management –** per McKinsey, early AI adopters average 15% lower logistics costs, 35% lower inventory levels, and service levels raised by 65% compared to competitors.

▶ **Content Creation –** AP creates news articles about quarterly corporate earnings releases where AI 'reads' the release in the standard Business Wire format and then 'writes' a summary of the results. This allows them to cover > 40,000 publicly reporting companies quarterly with only review staff.

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How Do We Get There?

- **Concentrate on raising the AI Proficiency of the product teams and the Company.**

  - **Tool-Up (Due to security and legal constraints, 78% of AI users employ their own tools, and 52% don't admit to it.)**

  - **Incorporate Educate & Test iterations to speed knowledge worker development.**

- **Identify 4 initiatives that show the promise of being significant game-changers for the Company.**

- **Identify a senior level Owner / Sponsor enthused about each initiative.**

- **Build 6-packs to drive initiatives – led by Hi-Pots**

- **Goal: Produce a realistic business plan in 6-8 weeks.**