Modular Course D: Customization Engineering

Unit D3 – 3D Printing Applications in the Leather & Footwear Industry

Lecture D3.4 – 3D Printing for Leather Goods

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T2.2 – Development of modular courses and training material.

D2.4 – Modular Course in Customization Engineering

Lesson D3.4 – 3D Printing for Leather Goods

mization and Innovation in
ducts

1. Introduction

- 3D printing transforms leather goods industry
- Enables customization, sustainability, and innovative design
- Combines traditional craftsmanship with

2. Workflow for 3D-Printed Leather Goods

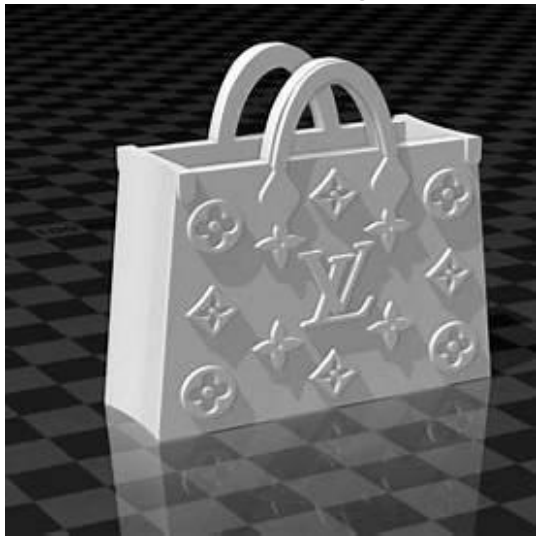
1. Customer-Centered Customization (3D scanning, personalization)
2. Digital Design (CAD modeling of parts & ornaments)
3. Material Selection (TPU, Nylon, Re
4. Printing Process (SLA, FDM, SLS)
5. Integration with Leather (stitching embedding)
6. Post-Processing (painting, plating,

3. Applications of 3D Printing in Leather Goods

- Fashion Accessories: buckles, fasteners, ornaments
- Luxury Goods: custom panels, monograms, handles
- Functional Enhancem ents, lightweight structures
- Sustai n: re pairable compon

4. Case Studies

- Louis Vuitton x Stratasys – experimental handbags
- Iris van Herpen – fashion with 3D embellishments
- Startups – custom buckles, wallet parts, panels



5. Advantages

- Personalization at scale
- Waste reduction and sustainability
- Creative freedom in design
- Faster prototyping and iteration

6. Challenges

- Material compatibility with leather
- Durability of printed components
- High production costs
- Need for skilled craftsmanship in hybrid a

7. Discussion Questions

1. How does 3D printing change luxury leather goods?
2. How can artisans adopt 3D printing?
3. How does it support sustainability?
4. What new designs are possible with hybrid leather goods?