



International
Building &
Construction
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DUBAI MUNICIPALITY



5 - 8 DECEMBER 2022
DUBAI WORLD TRADE CENTRE

The Strategic Implementation of 3D Printing Technology in Construction

التطبيق الإستراتيجي لتقنية الطباعة ثلاثية
الأبعاد في صناعة البناء و التشييد

Eng. Marwan Al Janaahi - Expert in 3DP technology

7th December 2022



Understanding the Technology

What is 3D Printing in Construction?



Industrialized Construction



Additive Manufacturing



Autonomous Robots

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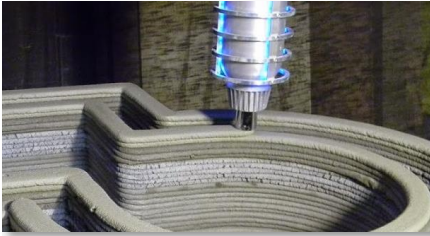
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Understanding the Technology

Methods of 3D Printing?



Extrusion



- Polymers
- Foam
- Concrete / Cement

Bonding



- Polymer Bonding
- Reactive Bonding
- Compacting

Welding



- Metal Alloys

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Understanding the Technology

Why 3D Printing?

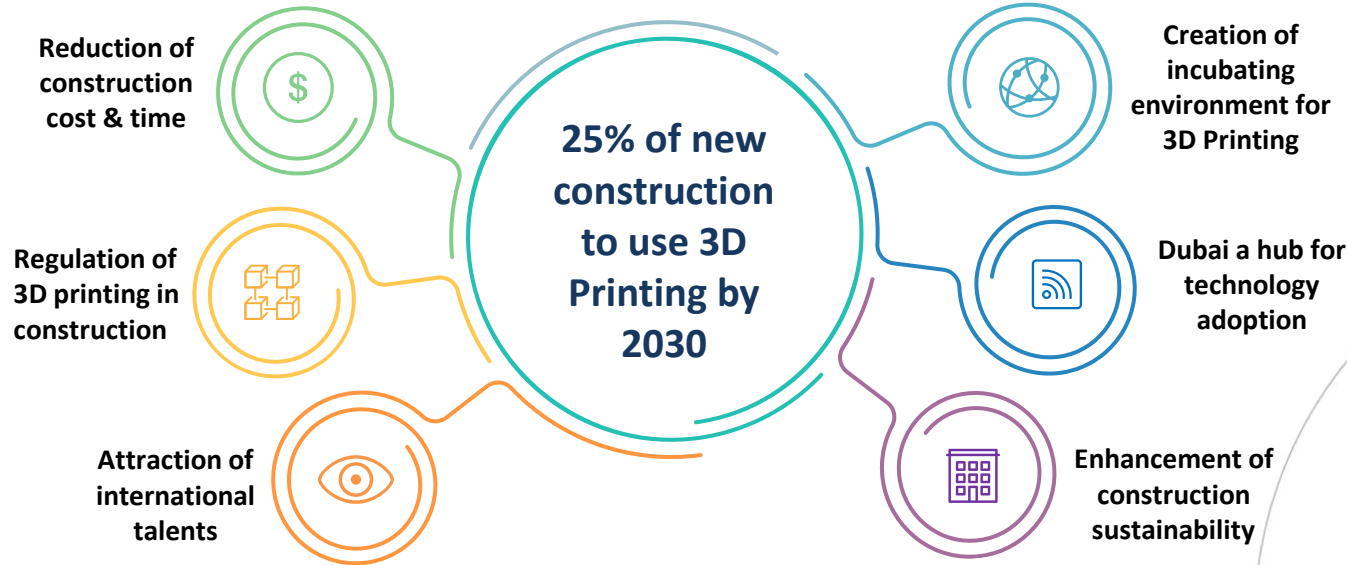


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The Implementation of 3D Printing

Dubai Municipalities Goals



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Achievements & Facilitations

Dubai Municipality's Role



Introduction of New Business Activities

- Consultancy
- Main Construction
- Fit-Out & Decoration
- Mix Manufacturing



Certification of Specialized Engineers

- Qualification Requirement
- Registration, Examination, & Certification



Permitting of New Construction

- Issuing Standards
- Review & Approval of Design
- Issuing Building Permit



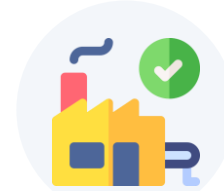
Monitoring of Construction Activities

- Operational Standards
- Monitoring Site Safety
- Monitoring Structural Safety



Conducting Tests and Approving Materials

- Specifying Mix Requirements
- Conducting Mix Tests
- Certifying Mix for Use



Approving Factories and Robots

- Factory Inspection & Certification
- Printer Product Conformity
- Mix Product Conformity

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Achievements & Facilitations

Dubai Municipality's Effort

Proof of Concept

- Encourage the industry
- Promote the technology
- Firsthand understanding of the technology



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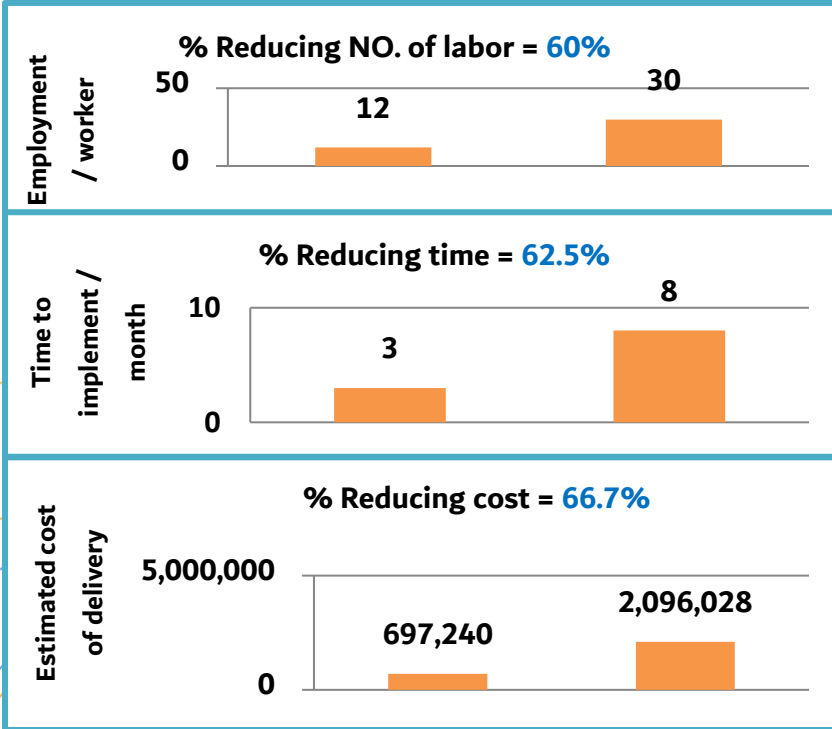
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Achievements & Facilitations



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Achievements & Facilitations

The initiation of the strategic alliance

- Creation of a 3D Printing Team on a city level
- Direct communication with the private sector
- Understanding market demands
- Creative necessary incentives to promote the technology



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The Future of 3D Printing



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3D Printing Zone

Powered by Dubai Municipality



**We Invite you to visit
the 3D Printing Zone!**



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