ADVANCEMENTS IN DIGITAL FABRICATION AND ROBOTICS

THE AFRICAN CONTEXT

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## Historical Effects of Industrial Revolution in Africa

<table>
<thead>
<tr>
<th>Technological Change</th>
<th>Score-Card</th>
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<tbody>
<tr>
<td>1. 1\textsuperscript{st} Industrial Revolution</td>
<td>Fail</td>
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<tr>
<td>2. 2\textsuperscript{nd} Industrial Revolution</td>
<td>Fail</td>
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<tr>
<td>3. 3\textsuperscript{rd} Industrial Revolution</td>
<td>Poor</td>
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<tr>
<td>4. 4\textsuperscript{th} Industrial Revolution</td>
<td>?</td>
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</tbody>
</table>
AFRICA’S WORKFORCE DISTRIBUTION

- Informal Sector: 80%
- Formal Sector: 15%
JUA KALI MANUFACTURING SECTOR
CHARACTERISTIC TECHNOLOGIES OF THE 4IR

- Robotics
- Physical
- Digital
- Biological
- IOT
- Additive manufacturing
- Machine learning and AI
- UAV
- Machine learning and AI
GROWING MAKER AND INNOVATION CULTURE BASED ON 4IR TECHNOLOGIES
SPROUTING DIGITAL FABRICATION CENTERS (FABLABS)
THE IMPACT – LOCALLY BUILT INDUSTRIAL ROBOTS FOR THE BULK OF KENYAN WORKFORCE
THE IMPACT – LOCALLY BUILT INDUSTRIAL ROBOTS WILL IMPROVE QUALITY AND PROFIT MARGINS FOR THE SECTOR
THE IMPACT – LOCALLY BUILT INDUSTRIAL ROBOTS FOR THE BULK OF KENYAN WORKFORCE
THE IMPACT – LOCALLY BUILT INDUSTRIAL ROBOTS FOR THE BULK OF KENYAN WORKFORCE
THE IMPACT – INNOVATION IN THE ADDITIVE MANUFACTURING SPACE IN MODERN MEDICINE
COMMON AFRICAN CHALLENGES CAN BE SOLVED BY 4IR TECHNOLOGIES INNOVATED LOCALLY
HENCE THE FUTURE OF DRONES IN AFRICA

Zipline Project: Rwanda
“THE FOURTH INDUSTRIAL REVOLUTION IS STILL IN ITS NASCENT STATE. BUT WITH THE SWIFT PACE OF CHANGE AND DISRUPTION TO BUSINESS AND SOCIETY, THE TIME TO JOIN IN IS NOW.”

Gary Coleman,
Global Industry Senior Advisor,
Deloitte Consulting