The New Guidelines for Engineering Education in Brazil

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Agenda

1. Brazilian GDP
2. Brazilian Research by Numbers
3. Innovation Ranking
4. Competitiveness Ranking
5. Engineering Education by Numbers
6. New Guidelines Challenges
7. New Guidelines Impact
8. Conclusion
1. Brazilian GDP

2011 – 2,624 trillion USD
2018 – 1,462 trillion USD
8th World Economy
210 million inhabitants
12 million unemployed
2. Brazilian Research in Numbers

0.7% of GDP for Research
Ranking of Publication: 14rd
Source: Clarivate Analytics
3. Innovation Ranking

66th Position among 126 countries
Only 1% of top 2000 companies
3. Innovation Ranking

Source: Global Innovation Index 2019
Univ. Cornell

Chile – 51
Mexico – 56
Uruguay – 62
BRAZIL - 66

Colombia – 67
Peru - 70
Argentina – 73
Panama - 75
4. Competitiveness Ranking

71st among 141 countries

Source: World Economic Forum
4. Competitiveness Ranking

Source: World Economic Forum

Singapore - 1
United States - 2
Hong Kong – 3
Netherland - 4
Switzerland – 5
Japan - 6

Chile - 33
Mexico - 46
Uruguay – 54
Colombia - 57
Peru – 65
Brazil - 71
5. Engineering Education by Numbers
Numbers of Engineering Programs (Face-to-face + Online)

Fonte: Organizado por Vanderli Fava de Oliveira. Base: dados inep.gov.br, abr/2020
Numbers of Engineering Programs (Face-to-face + Online)

Fonte: Organizado por Vanderli Fava de Oliveira. Base: dados inep.gov.br, abr/2020
Engineering Graduates (face-to-face+online)

<table>
<thead>
<tr>
<th>Year</th>
<th>Priv Graduates</th>
<th>Publ Graduates</th>
<th>Total Graduates</th>
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Priv: 91,599
Publ: 34,852
Total: 126,451

Fonte: Organizado por Vanderli Fava de Oliveira. Base: dados inep.gov.br, out/2019
Number of Students Enrolled - Brazil

Source: Prof. Marcello Nitz – IMT Institute Maua of Technology
Engineering School Evasion (5.5 to 6.5 years for graduation)

Fonte: Organizado por Vanderli Fava de Oliveira. Base: dados inep.gov.br, jan/2019
Number of Admissions in Eng. Programs - Brazil

Source: Prof. Marcello Nitz – IMT Institute Maua of Technology
Graduados/10 mil habitantes
Ano 2017

<table>
<thead>
<tr>
<th>País</th>
<th>Graduação</th>
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<td>Estados Unidos</td>
<td>7,8</td>
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<tr>
<td>Brasil</td>
<td>4,8</td>
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</tbody>
</table>

Source: CNI/MEI
Funnel of Engineering Education

Recruitment → Formation

1000 Applicants
95 Graduated
Enrolled 175

Fonte: Organizado por Vanderli Fava de Oliveira. Base: dados inep.gov.br, set/2017
6. New Guidelines Challenges

Solid Technical Skill ↔ Humanist Soft Skill

Freedom for Innovation

The Project is a System
6. New Guidelines Challenges

Teacher Centered  \rightarrow  Student Centered

More Flexible Programs

More Women
6. New Guidelines Challenges

Teacher Development in New Technologies
7. New Guidelines’ Impact

Contents → Competences

Passive → Active Learning
7. New Guidelines’ Impact

Improvement of Hands-On activities

Continuous Assessment

Credits for Extra-Classes Activities
7. New Guidelines’ Impact

Hospitality Policy
Conclusion
Thank you

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