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Curso com qualidade independente da modalidade!

Inovações tecnológicas para uma experiência diferente

Previsões sinalizam que Programas Online e Híbridos representarão 50% das matrículas particulares até 2023

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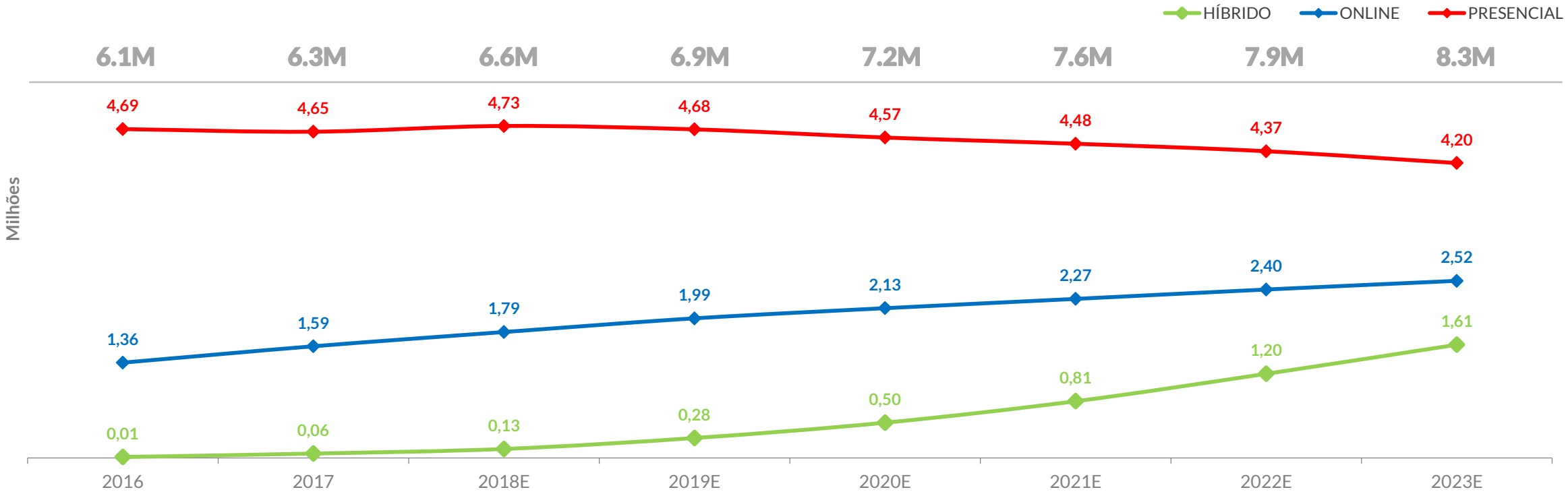
PREVISÃO TOTAL DE MATRÍCULAS PRIVADAS – 2016 ATÉ 2023



EVOLUÇÃO DA DIVISÃO DE MATRÍCULAS PRIVADAS								
MODALIDADE	2016	2017	2018E	2019E	2020E	2021E	2022E	2023E
HÍBRIDO	1%	1%	2%	4%	7%	11%	14%	19%
ONLINE	22%	25%	27%	29%	30%	30%	31%	31%
PRESENCIAL	77%	74%	71%	67%	63%	59%	55%	50%

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O **EaD** e o **Híbrido** vão canibalizar o **presencial?**

A IES se adequa ao perfil do aluno e não o inverso

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ALUNO PRESENCIAL

50 | 50

FAIXA ETÁRIA

18 a 25 anos	56
26 a 35 anos	33
Acima de 35	11

AB1 42% | 58% B2C

60% trabalham

47% cursaram ensino médio em escolas particulares

52% matricularam-se em 1 ano após ensino médio

60% dependem de transporte público para estudar

76% são responsáveis pelo pagamento da mensalidade

ALUNO HÍBRIDO

65 | 35

FAIXA ETÁRIA

18 a 25 anos	44
26 a 35 anos	38
Acima de 35	18

AB1 33% | 67% B2C

70% trabalham

32% cursaram ensino médio em escolas particulares

41% matricularam-se em 1 ano após ensino médio

74% dependem de transporte público para estudar

81% são responsáveis pelo pagamento da mensalidade

ALUNO 100% ONLINE

35 | 65

FAIXA ETÁRIA

18 a 25 anos	18
26 a 35 anos	26
Acima de 35	56

AB1 12% | 88% B2C

93% trabalham

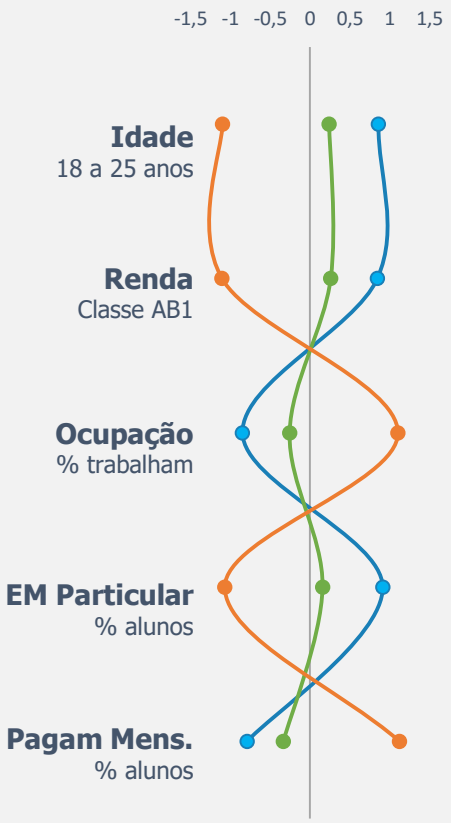
5% cursaram ensino médio em escolas particulares

15% matricularam-se em 1 ano após ensino médio

82% dependem de transporte público para estudar

97% são responsáveis pelo pagamento da mensalidade

Comparação entre os três perfis de aluno
(Desvios em relação à média)

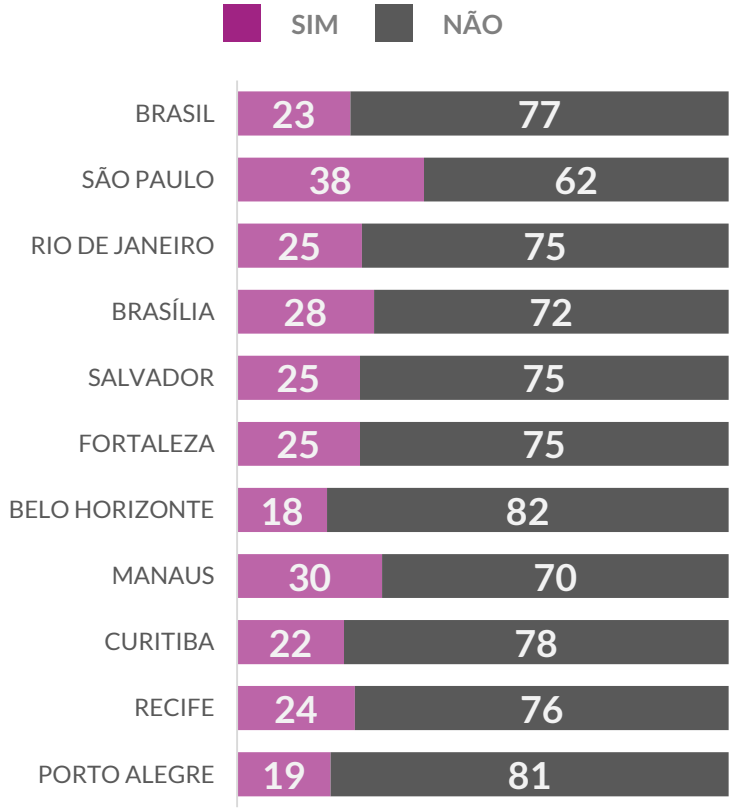


Fonte: Estudos Educa Insights

Quando bem comunicado, o Híbrido é muito bem aceito!

Fizemos algumas perguntas nas dez maiores cidades do Brasil...

Você já ouviu falar de cursos híbridos?



Fonte: Estudos Educa Insights

Então apresentamos uma breve descrição sobre cursos híbridos

Consideraria fazer um curso híbrido?

Os cursos híbridos são iguais ou melhores do que as atuais opções de cursos presenciais?

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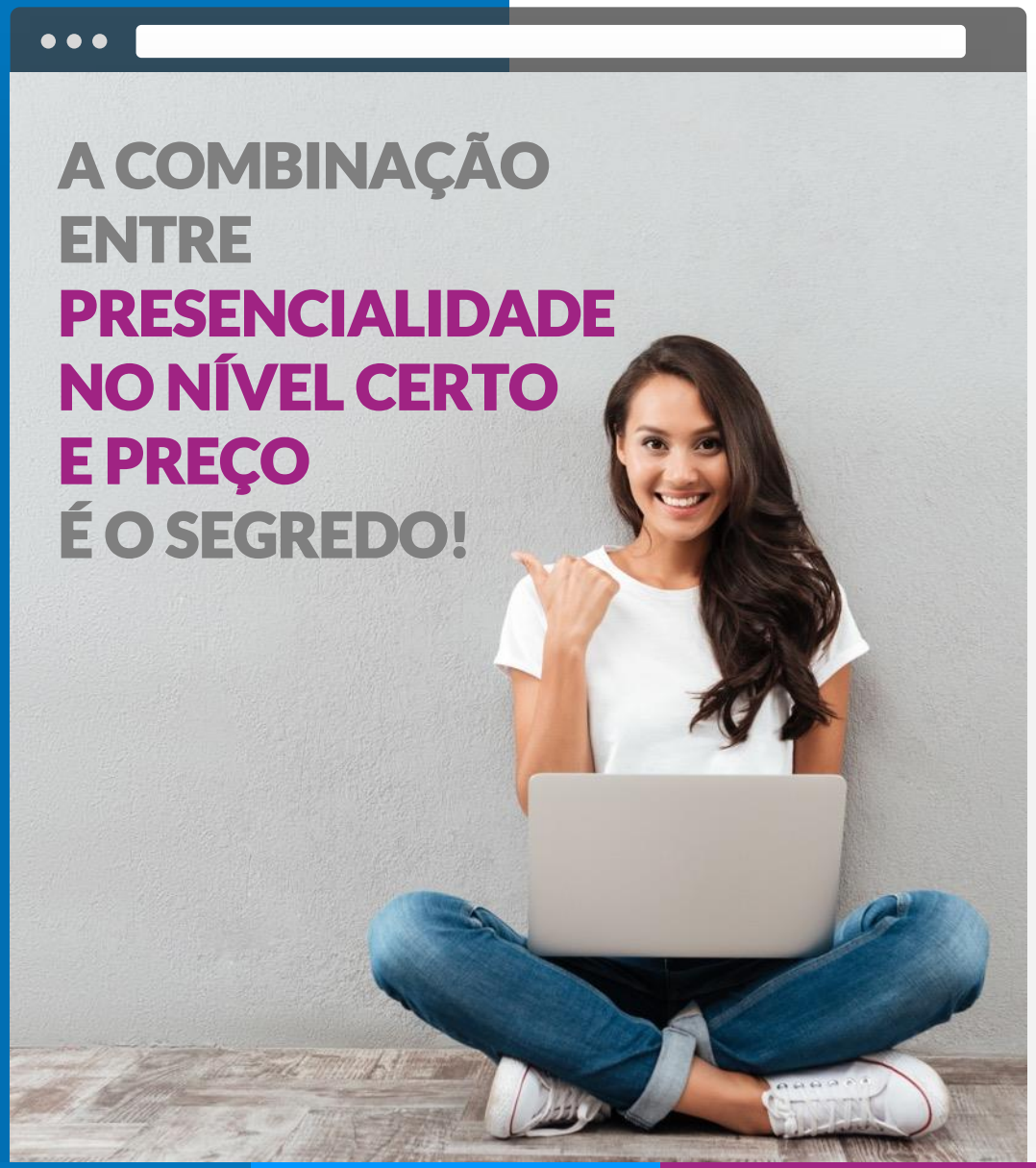
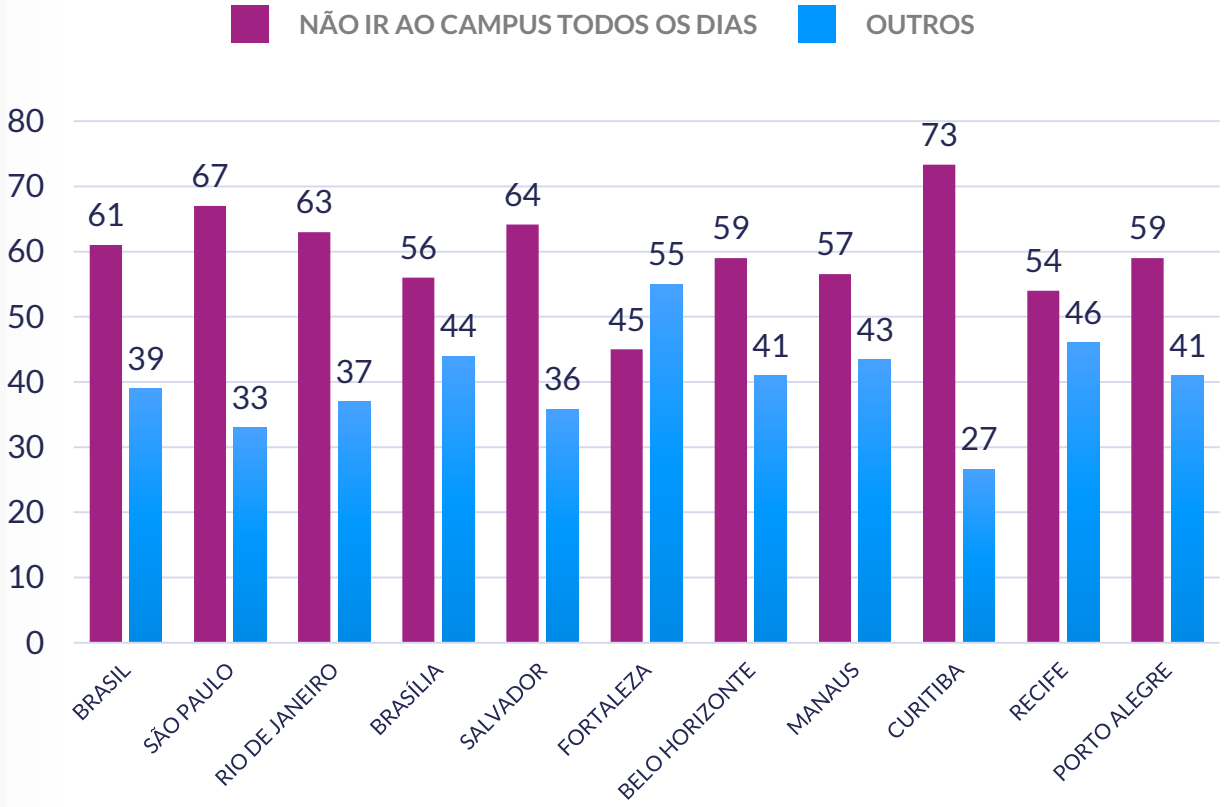
E NÃO É SÓ PREÇO!

Alunos já não querem estar todos os dias no campus.



QUAL O PRINCIPAL BENEFÍCIO DOS CURSOS HÍBRIDOS?



Fonte: Estudos Educa Insights

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Porém, um dos grandes desafios está na

DEFINIÇÃO DO SEU MODELO!

NÃO EXISTE UM MODELO DE OFERTA PADRÃO

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	INSTITUIÇÃO 1	INSTITUIÇÃO 2	INSTITUIÇÃO 3	INSTITUIÇÃO 4
PORTFOLIO DE CURSOS	CURSOS DE ENGENHARIA	• CURSOS DE NEGÓCIOS, ENG. • DE PRODUÇÃO, EDUCAÇÃO FÍSICA, GASTRONOMIA E LICENCIATURAS	CURSOS DE ENGENHARIA, NEGÓCIOS, EDUCAÇÃO FÍSICA, GASTRONOMIA E LICENCIATURAS	CURSOS DE NEGÓCIOS (CURSOS PILOTOS)
AULAS PRESENCIAIS	• 1X POR SEMANA • 1 SÁBADO QUINZENAL	QUINZENAIS	ATÉ 2X POR SEMANA (cursos com aulas práticas)	3X POR SEMANA
MODELO DE ENSINO PRESENCIAL	• METODOLOGIAS ATIVAS • PROFESSORES • SALAS DE AULA 360º • PROJETOS E DISCUSSÕES	• METODOLOGIAS TRADICIONAIS • TUTORES • EXERCÍCIOS E TRABALHOS DE FIXAÇÃO	• METODOLOGIAS TRADICIONAIS • TUTORES • EXERCÍCIOS E DÚVIDAS	• METODOLOGIAS ATIVAS • PROFESSORES • PEER INSTRUCTION • PROJETOS E DISCUSSÕES
CONTEÚDO ONLINE	• VÍDEOS POR CONTEÚDO • TEXTOS DE APOIO • QUIZ DE FIXAÇÃO	• VÍDEOS CURTOS POR CONTEÚDO • LEITURA LIVRO DIDÁTICO • QUIZ DE FIXAÇÃO	• VÍDEOS CURTOS POR CONTEÚDO • TEXTOS OBRIGATÓRIOS • MATERIAIS DE APOIO TRADICIONAIS	• VÍDEOS POR CONTEÚDO • TEXTOS PARA LEITURA • CONTEÚDOS ADICIONAIS • GAMIFICATION
MATERIAIS DE ESTUDO	ONLINE (AVA) + IMPRESSO	100% ONLINE (AVA)	ONLINE (AVA) + IMPRESSO	100% ONLINE (AVA)

Como as **Engenharias** se adequam a este novo cenário?

A resposta vem com o que sabemos fazer de melhor...

A “VIRADA DE CHAVE” COM INOVAÇÕES TECNOLÓGICAS

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MAKER TROPICALIZADO: ATIVIDADES “HANDS-ON”

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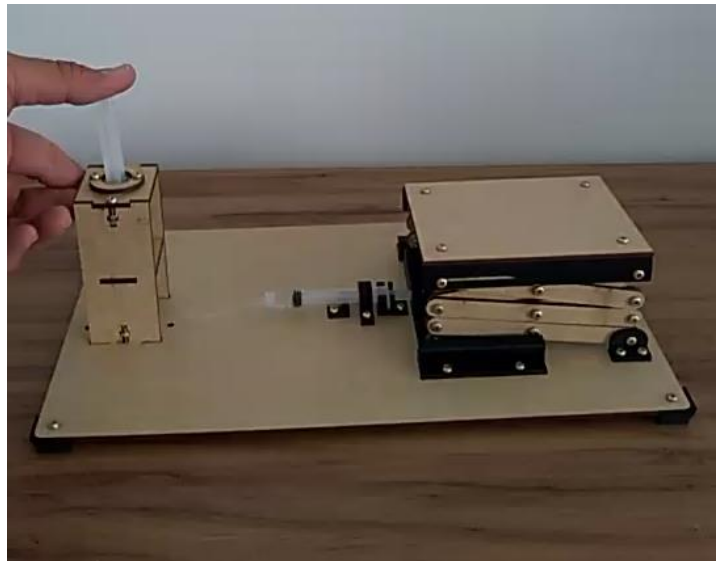
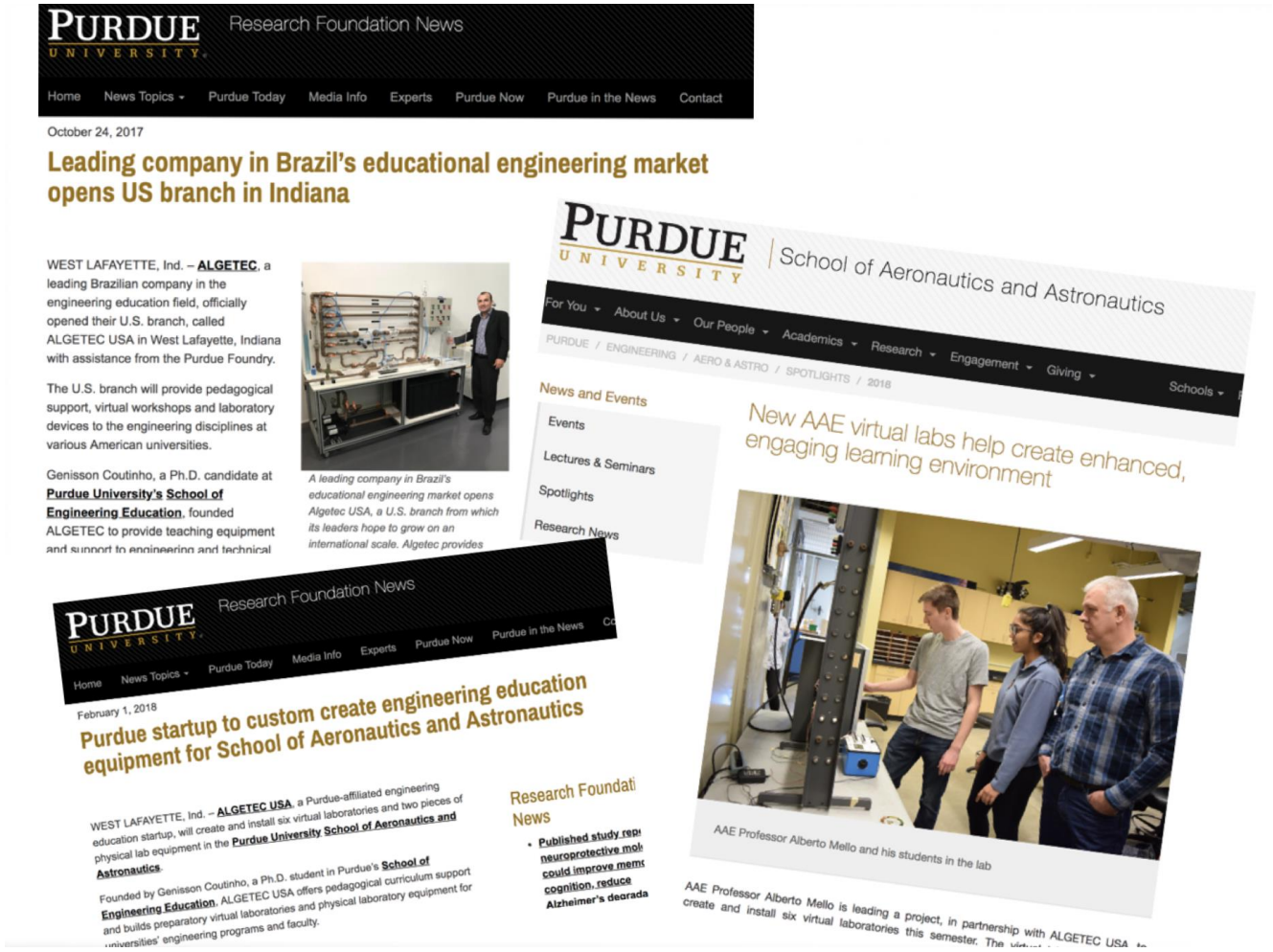


VIRTUALIZAÇÃO DAS PRÁTICAS LABORATORIAIS



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October 24, 2017

Leading company in Brazil's educational engineering market opens US branch in Indiana

WEST LAFAYETTE, Ind. – **ALGETEC**, a leading Brazilian company in the engineering education field, officially opened their U.S. branch, called ALGETEC USA in West Lafayette, Indiana with assistance from the Purdue Foundry.

The U.S. branch will provide pedagogical support, virtual workshops and laboratory devices to the engineering disciplines at various American universities.

Genisson Coutinho, a Ph.D. candidate at **Purdue University's School of Engineering Education**, founded ALGETEC to provide teaching equipment and support to engineering and technical

A leading company in Brazil's educational engineering market opens Algetec USA, a U.S. branch from which its leaders hope to grow on an international scale. Algetec provides

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Events

Lectures & Seminars

Spotlights

Research News

New AAE virtual labs help create enhanced, engaging learning environment

AAE Professor Alberto Mello and his students in the lab

AAE Professor Alberto Mello is leading a project, in partnership with ALGETEC USA, to create and install six virtual laboratories this semester. The

PURDUE UNIVERSITY Research Foundation News

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February 1, 2018

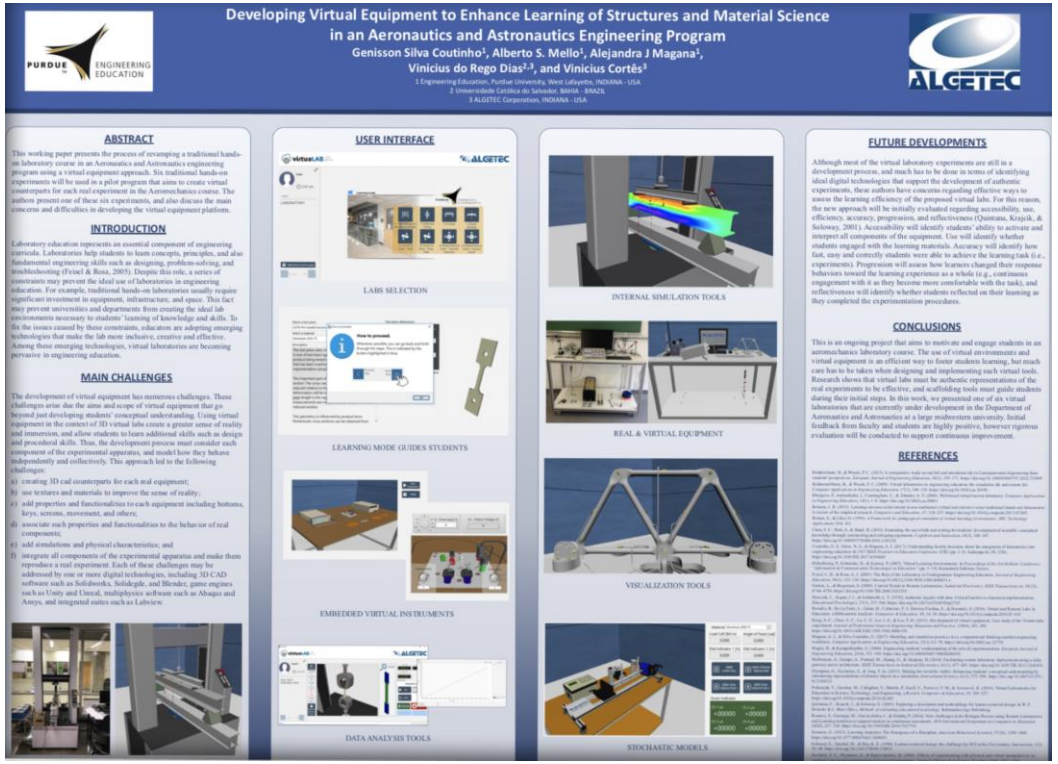
Purdue startup to custom create engineering education equipment for School of Aeronautics and Astronautics

WEST LAFAYETTE, Ind. – **ALGETEC USA**, a Purdue-affiliated engineering education startup, will create and install six virtual laboratories and two pieces of physical lab equipment in the **Purdue University School of Aeronautics and Astronautics**.

Founded by Genisson Coutinho, a Ph.D. student in Purdue's **School of Engineering Education**, ALGETEC USA offers pedagogical curriculum support and builds preparatory virtual laboratories and physical laboratory equipment for universities' engineering programs and faculty.

Research Foundati News

- **Published study rep neuroprotective mol could improve mem cognition, reduce Alzheimer's degrada**



Developing Virtual Equipment to Enhance Learning of Structures and Material Science in an Aeronautics and Astronautics Engineering Program

Genisson Silva Coutinho[1], Alberto S. Mello[1], Alejandra J Magana[1], Vinicius do Rego Dias[2,3], and Vinicius Cortês[3]

1 Engineering Education, Purdue University, West Lafayette, INDIANA - USA
2 Universidade Católica do Salvador, BAHIA - BRAZIL
3 ALGETEC Corporation, INDIANA - USA

PURDUE ENGINEERING EDUCATION

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ABSTRACT

This working paper presents the process of revamping a traditional hands-on laboratory course in an Aeronautics and Astronautics engineering program using a virtual equipment approach. Six traditional hands-on experiments will be used in a pilot program that aims to create virtual counterparts for each real experiment in the Aeronautics course. The authors present one of these six experiments, and also discuss the main concerns and difficulties in developing the virtual equipment platform.

INTRODUCTION

Laboratory education represents an essential component of engineering curricula. Laboratories help students to learn concepts, principles, and also fundamental engineering skills such as designing, problem-solving, and troubleshooting (Feisel & Rosa, 2005). Despite this role, a series of constraints may prevent the ideal use of laboratories in engineering education. For example, traditional hands-on laboratories usually require significant investment in equipment, infrastructure, and space. This fact may prevent universities and departments from creating the ideal lab environments necessary to students' learning of knowledge and skills. To fix the issues caused by these constraints, educators are adopting emerging technologies that make the lab more inclusive, creative and effective. Among these emerging technologies, virtual laboratories are becoming pervasive in engineering education.

MAIN CHALLENGES

The development of virtual equipment has numerous challenges. These challenges arise due the aims and scope of virtual equipment that go beyond just developing students' conceptual understanding. Using virtual equipment in the context of 3D virtual labs create a greater sense of reality and immersion, and allow students to learn additional skills such as design and procedural skills. Thus, the development process must consider each component of the experimental apparatus, and model how they behave independently and collectively. This approach led to the following challenges:

a) creating 3D cad counterparts for each real equipment;
b) use textures and materials to improve the sense of reality;
c) add properties and functionalities to each equipment including buttons, keys, screens, movement, and others;
d) associate such properties and functionalities to the behavior of real components;
e) add simulations and physical characteristics; and
f) integrate all components of the experimental apparatus and make them reproduce a real experiment. Each of these challenges may be addressed by one or more digital technologies, including 3D CAD software such as Solidworks, Solidedge, and Blender; game engines such as Unity and Unreal, multiphysics software such as Abaqus and Ansys, and integrated suites such as Labview.

USER INTERFACE

LABS SELECTION

LEARNING MODE GUIDES STUDENTS

EMBEDDED VIRTUAL INSTRUMENTS

DATA ANALYSIS TOOLS

INTERNAL SIMULATION TOOLS

REAL & VIRTUAL EQUIPMENT

VISUALIZATION TOOLS

STOCHASTIC MODELS

FUTURE DEVELOPMENTS

Although most of the virtual laboratory experiments are still in a development process, and much has to be done in terms of identifying ideal digital technologies that support the development of authentic experiments, these authors have concerns regarding effective ways to assess the learning efficiency of the proposed virtual labs. For this reason, the new approach will be initially evaluated regarding accessibility, use, efficiency, accuracy, progression, and reflectiveness (Quintana, Krajcik, & Soloway, 2001). Accessibility will identify students' ability to activate and interpret all components of the equipment. Use will identify whether students engaged with the learning materials. Accuracy will identify how fast, easy and correctly students were able to achieve the learning task (i.e., experiments). Progression will assess how learners changed their response behaviors toward the learning experiences as a whole (e.g., continuous engagement with it as they become more comfortable with the task), and reflectiveness will identify whether students reflected on their learning as they completed the experimentation procedures.

CONCLUSIONS

This is an ongoing project that aims to motivate and engage students in an aeromechanics laboratory course. The use of virtual environments and virtual equipment is an efficient way to foster students learning, but much care has to be taken when designing and implementing such virtual tools. Research shows that virtual labs must be authentic representations of the real experiments to be effective, and scaffolding tools must guide students during their initial steps. In this work, we presented one of six virtual laboratories that are currently under development in the Department of Aeronautics and Astronautics at a large midwestern university. Initial feedback from faculty and students are highly positive, however rigorous evaluation will be conducted to support continuous improvement.

REFERENCES

VIRTUALIZAÇÃO DAS PRÁTICAS LABORATORIAIS

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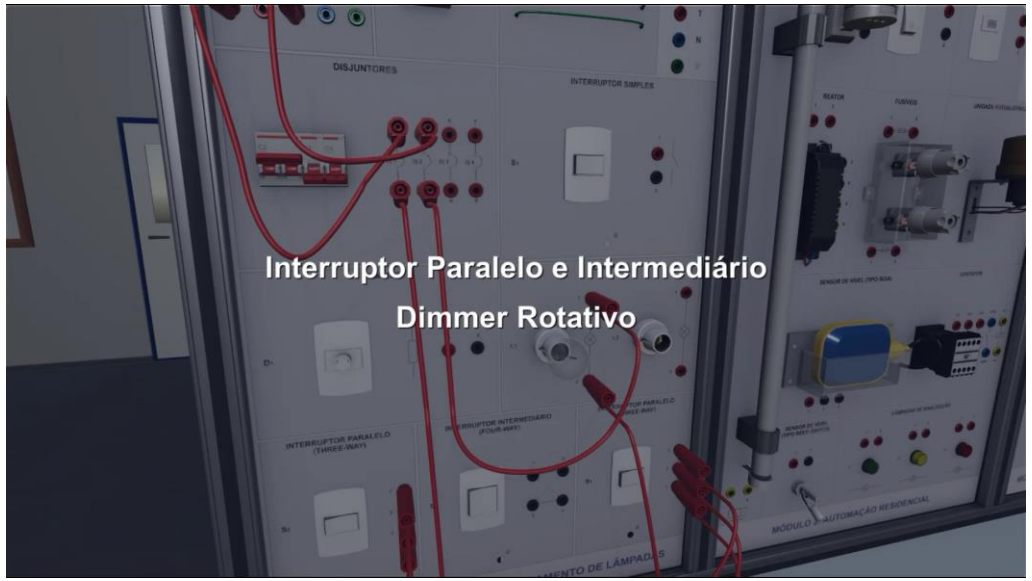

UMA EXPERIÊNCIA DE AULA DIFERENTE

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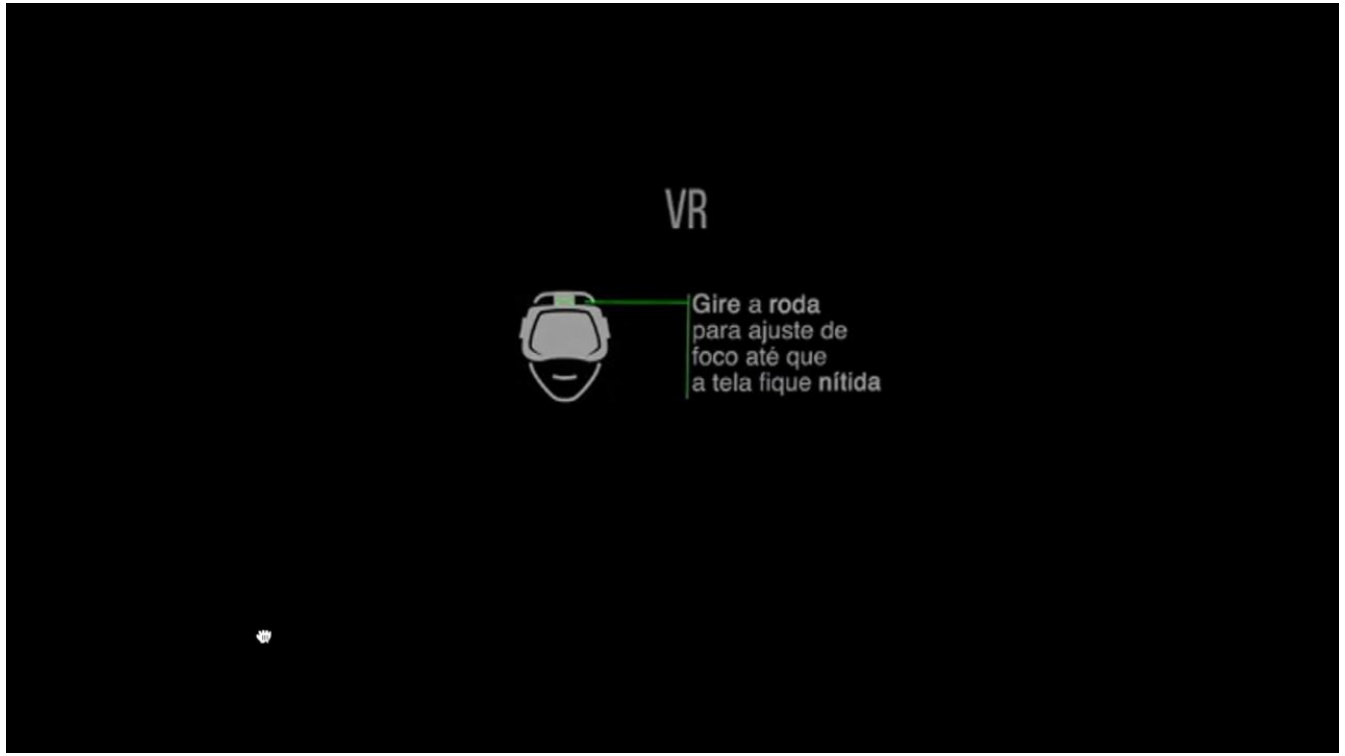

“LABORATÓRIO ATIVO”

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OBRIGADO!

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