Zürich Meets San Francisco
Growing the Talent Pie: Lessons from Switzerland

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CEO
CellarTracker

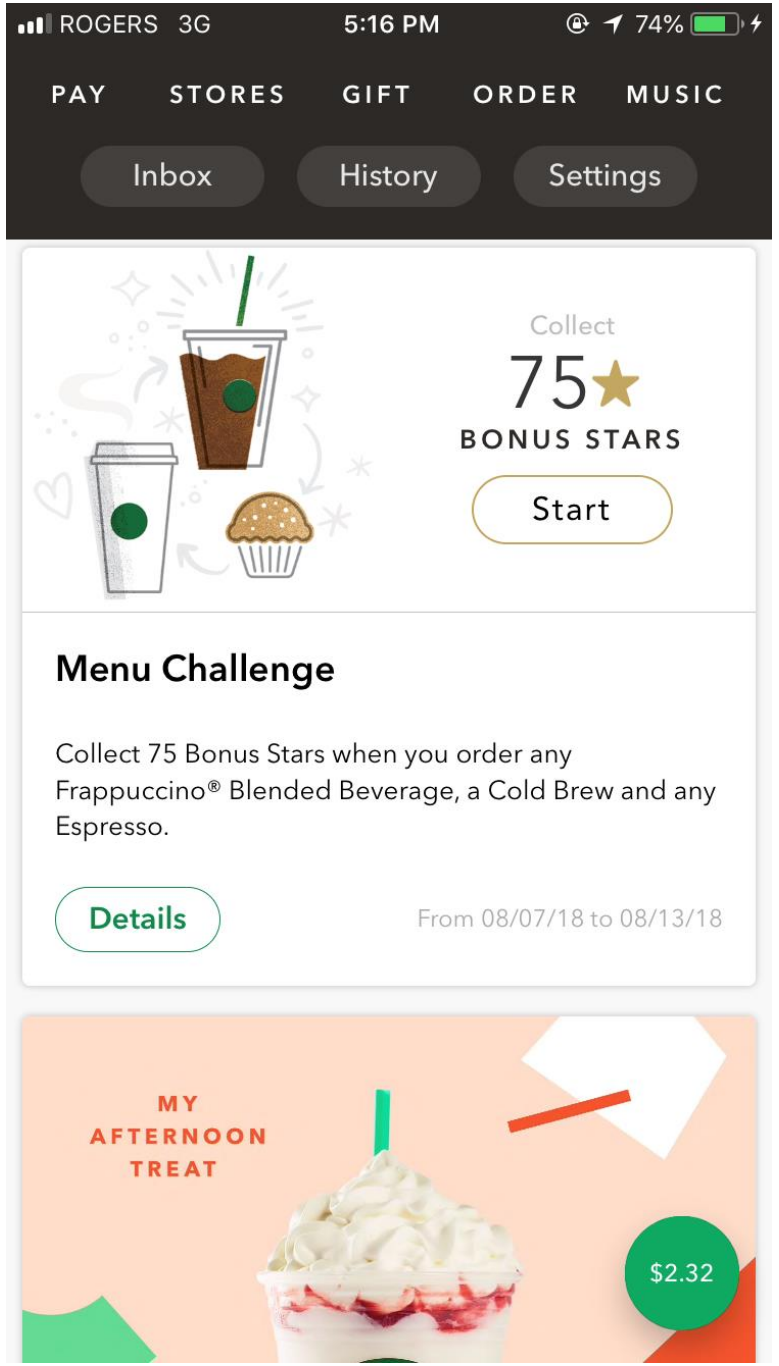
We Want
You To…

Build an Ecosystem to Win

Grow the Talent You Need

Know That Apprenticeship Works

Every Business is a Technology Company



Businesses Need More Tech Talent than Universities Produce

4,029
Computer Science Grads in California

75,095
Open Computing Jobs in California

Source: Code.org

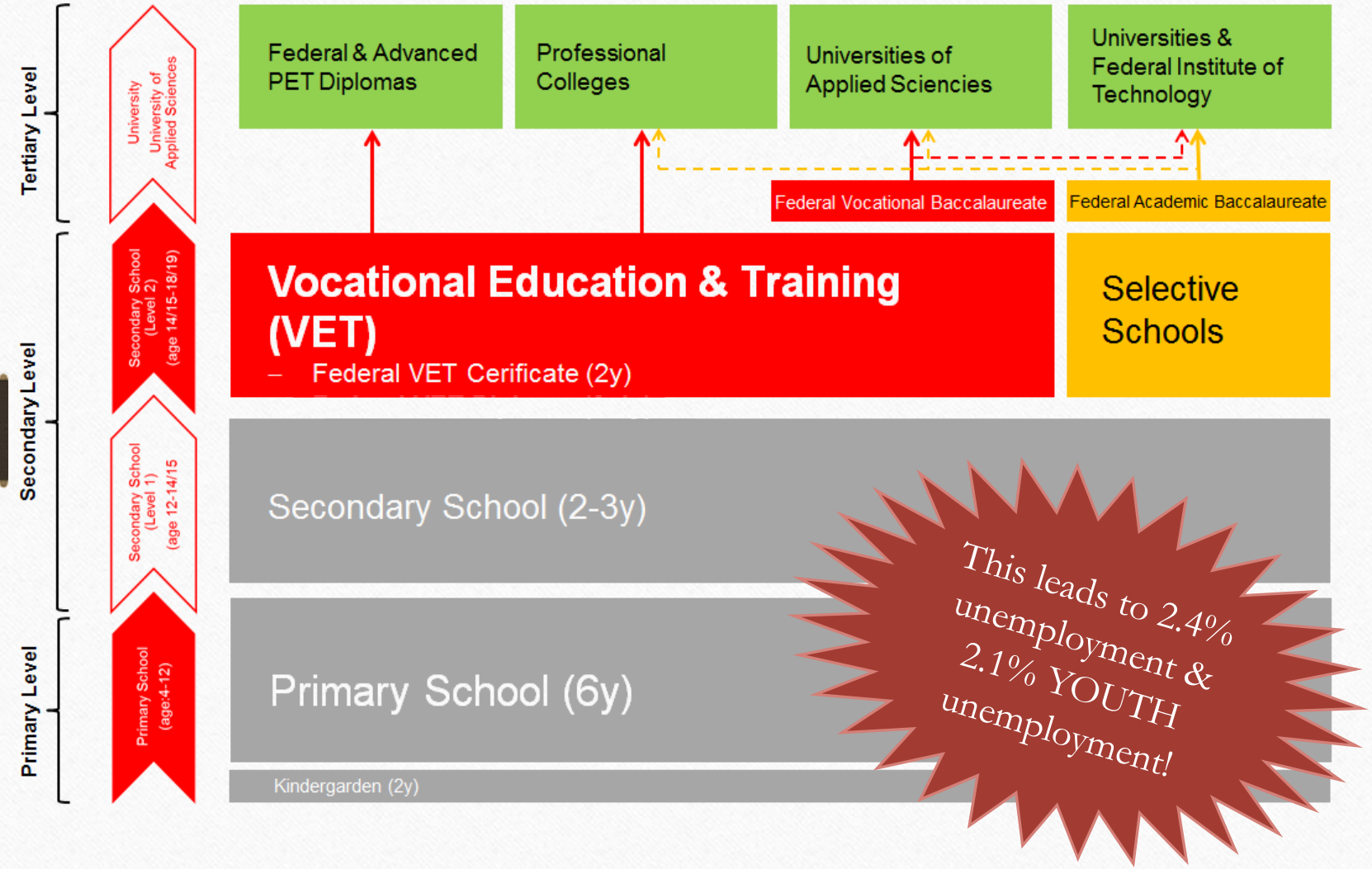
Businesses Solely Relying on 4 year Higher Ed Degrees Miss $^{2}/_{3}$ of the Talent

$^{1}/_{3}$ of Americans achieve a 4-year Higher Ed degree

$^{2}/_{3}$ Don't

Source: the 2015 Education Attainment study from the U.S. Census

Overview of the Swiss Dual-Education System



- 9 years of mandatory education
- ~70% of kids start apprenticeship at age 15
- Career fairs and recruitment start in 7th grade
- Fully permeable system fosters further education

Graphic: SFS Group; Data: Die Lage auf dem Arbeitsmarkt – Swiss government September 2017 report

Keys to Success for the Swiss

A Swiss Apprenticeship doesn't define you for life, but it is designed to prepare you for life.

Sergio Ermotti
UBS CEO
$3 trillion under management

Banking apprentice

Guy Parmelin
Federal Councilor & Defense Minister

Farming apprentice

Roger Huldi
W San Francisco
General Manager

Chef apprentice

Ursula Renold
Former Education Secretary & Apprenticeship Researcher

Commercial apprentice

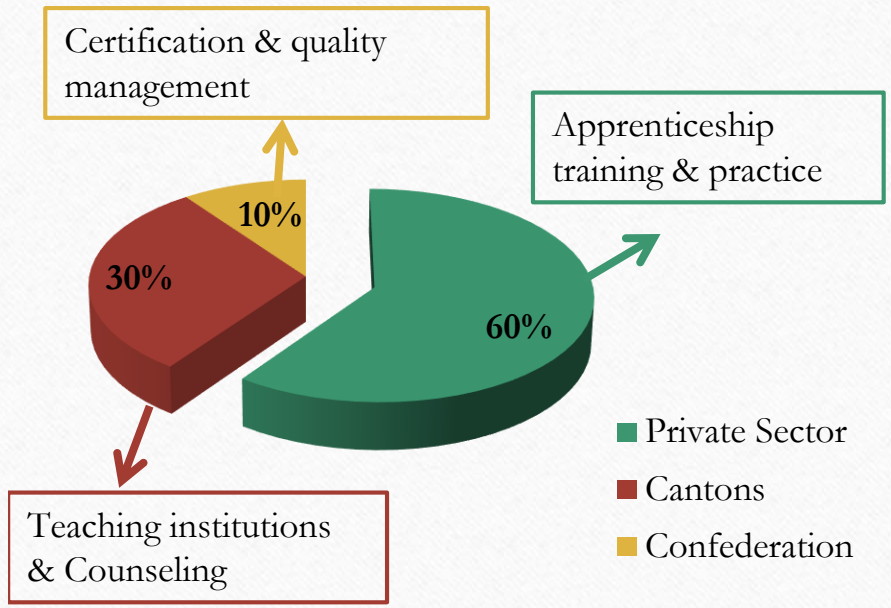
Businesses are Creators, Not Consumers of Talent

- Swiss businesses invest ≈ 1% of GDP (CHF 5B/year)
  - On top of 17% effective corporate tax rate & NO tax incentives
- Human resources, not corporate social responsibility
- Shareholders understand the value of carrying apprenticeship costs

Businesses Do

- Collaborate through associations to grow the pie
- Define & evolve competencies & curriculum
- Pay their fair share

Funding breakout

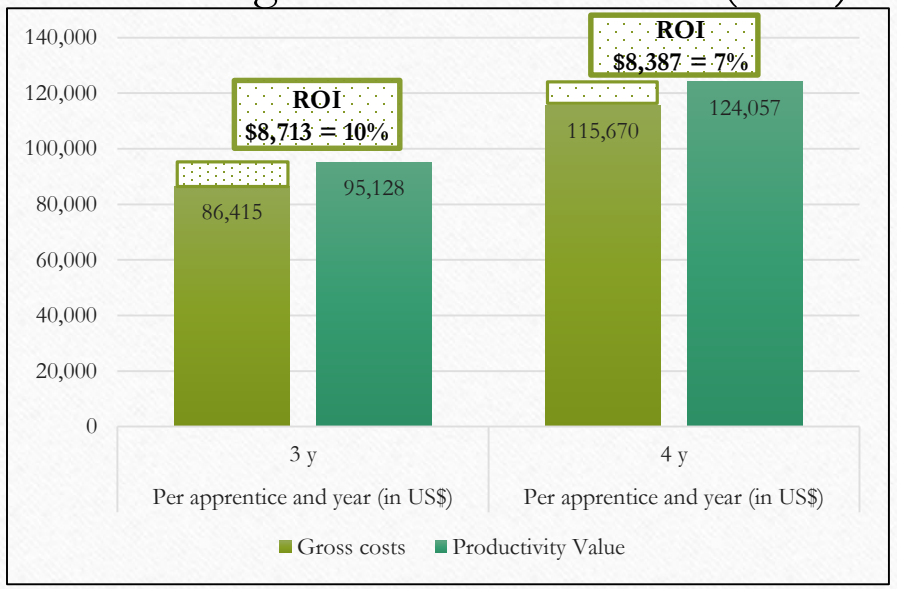


Source: SERI (Secretariat for Education Research and Innovation) & Roche

Businesses Get

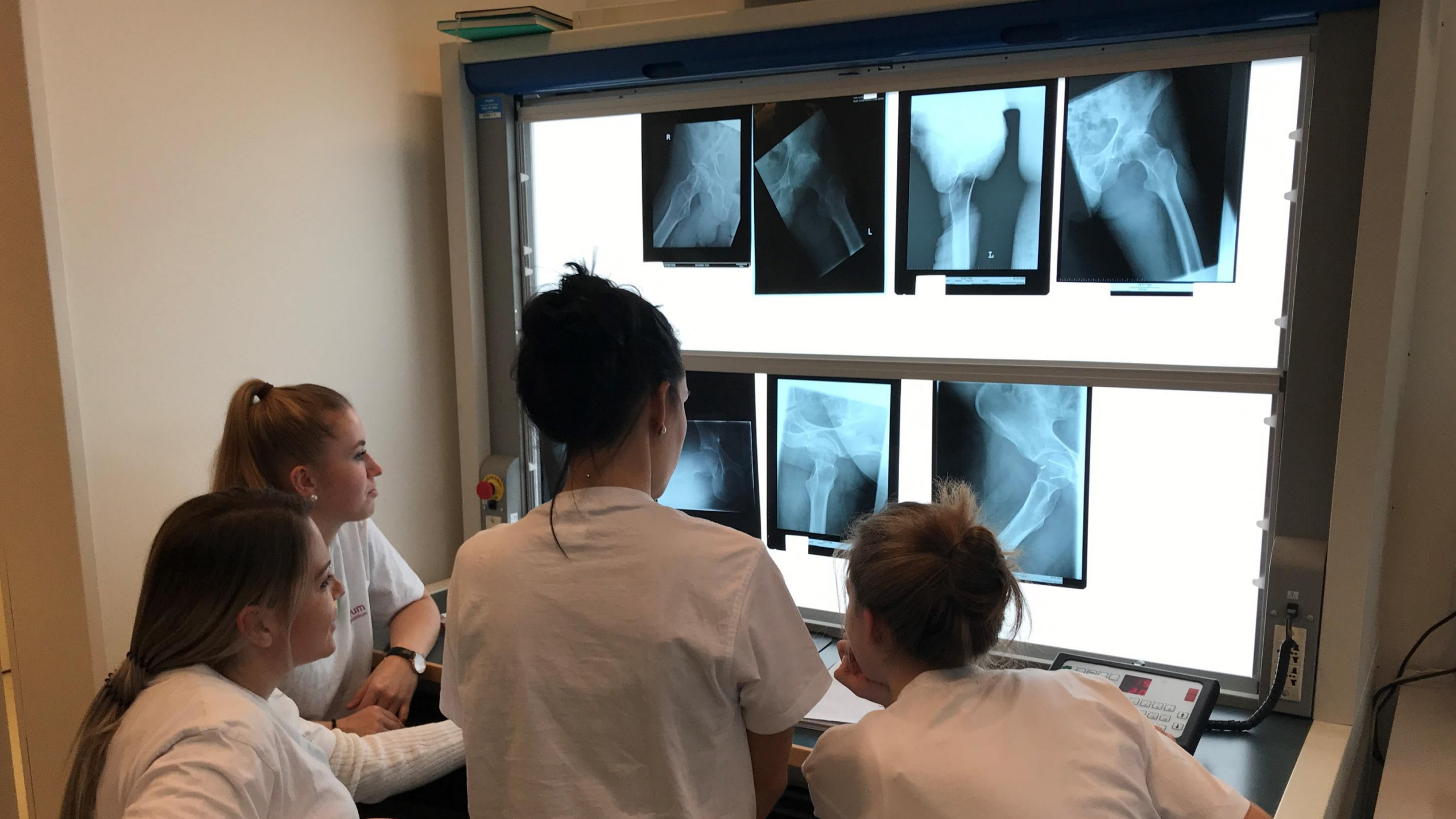
- A real ROI & real work
- Loyalty and pre-evaluation of staff AND employer
- Great skilled workers & life entrepreneurs
- Homegrown talent

Average cost and benefit per apprentice for training firms in Switzerland (2009)



Source: Strupler & Wolter, 2012

Tech Apprenticeship Examples from Switzerland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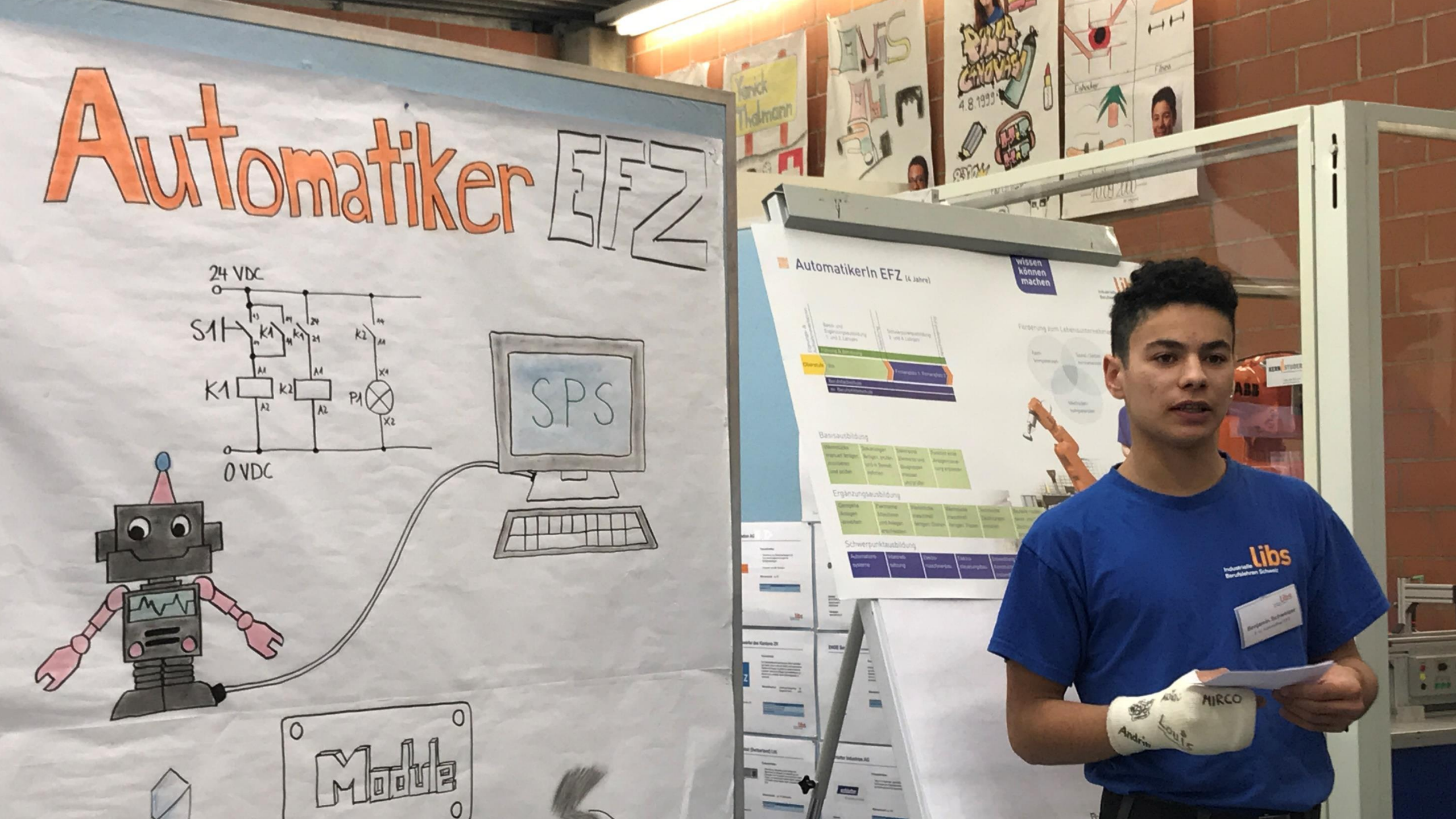
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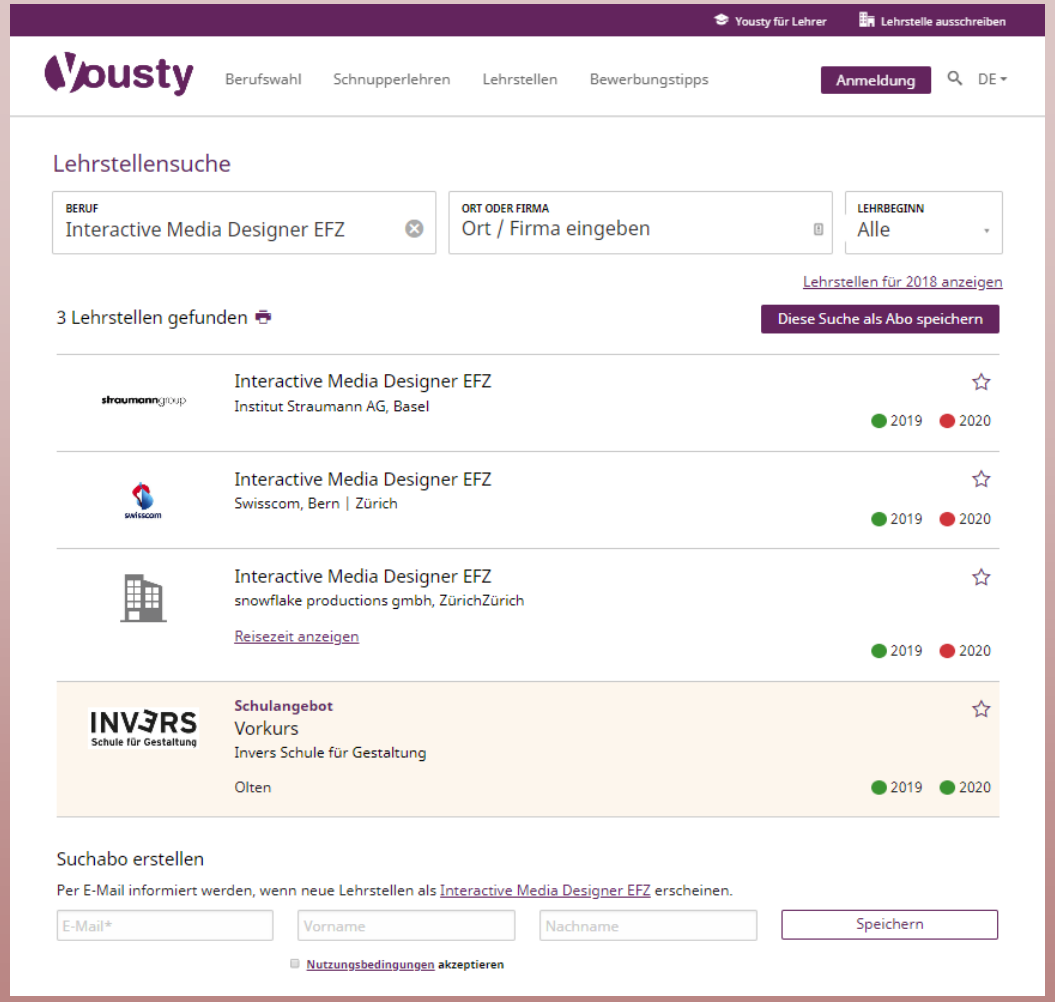
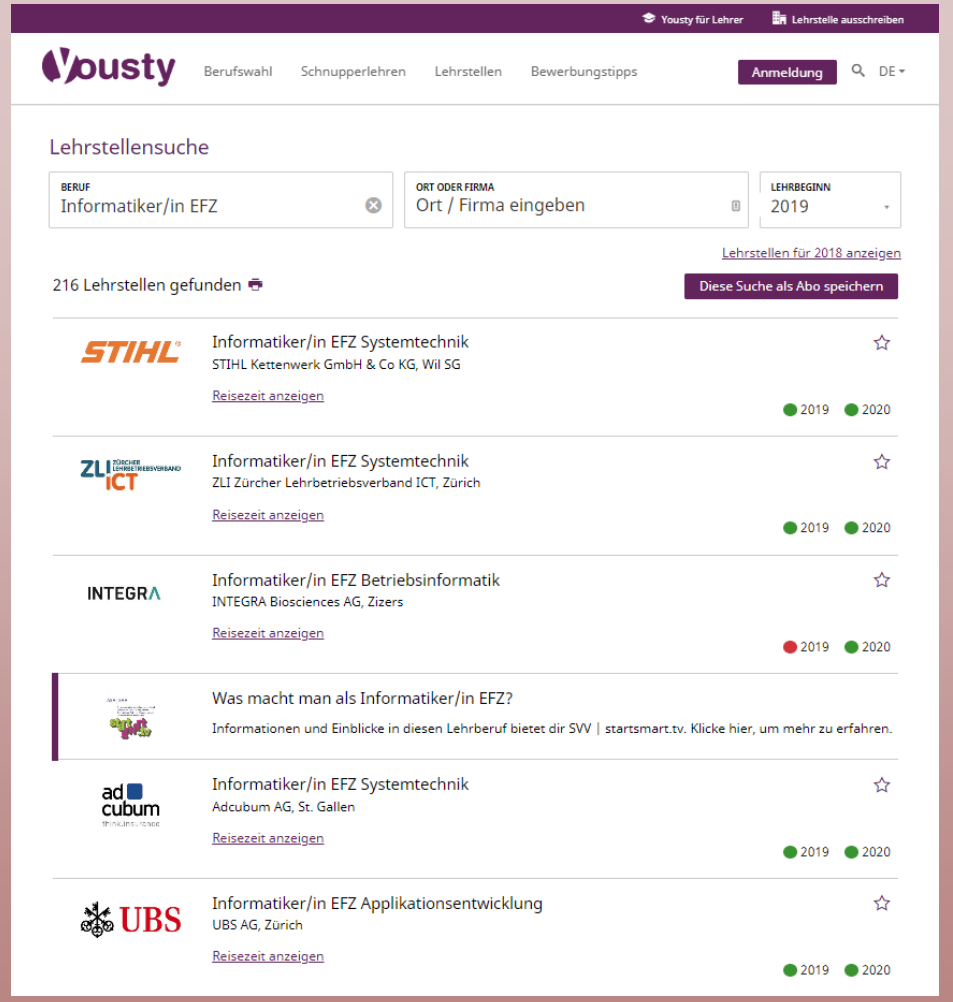


Media Designer



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BRING QUESTIONS. BUILD ANSWERS.

Adapting the Swiss Model to the United States

The Stars are Aligning in the US: Citizens

1. $1.3 trillion in college debt across 44 million borrowers
2. Only 33% of all Americans graduate from a 4-year University
3. 3.9% overall unemployment, 8.5% youth unemployment
4. Slow wage growth

Sources: NY Federal Reserve, National Center for Education Statistics, the Education Attainment study from the US Census, and the Bureau of Labor Statistics

The Stars are Aligning in the US: Businesses

1. More than 7.1 million jobs going unfilled for lack of skills
2. Silver tsunami hitting industries from aerospace to insurance
3. Increased questioning of our “degree” vs. a “skills” approach
4. Education needing to keep up with the pace of innovation

Source: The Bureau of Labor Statistics

Swiss-Style Apprenticeship

PRIMARY PATHWAY	ADVANCED MANUFACTURING	INFORMATION TECHNOLOGY	FINANCIAL SERVICES	BUSINESS OPERATIONS	HEALTHCARE
SAMPLE OCCUPATIONS	Production technician Quality control inspector Maintenance technician Logistics	Computer Technician Software QA Tester Junior Coder	Accounting Clerk Insurance Services Expert Financial Coordinator Customer Support	Project Coordinator Purchasing Coordinator Operations Specialist	Certified Nursing Assistant (CNA) to Licensed Practical Nurse (LPN)
SAMPLE EMPLOYERS	CoorsTek Intertech Plastics Nordson	DaVita University of Colorado Denver Arrow Intrawest Home Advisor	Pinnacol Assurance EKS&H Colavria Hospitality	Stonebridge Otter Box Skillful Janus	Vivage Senior Living Sava SeniorCare

Amazon welcomes first graduates of program to turn veterans into technologists

Originally published August 8, 2018 at 5:20 pm | *Updated August 8, 2018 at 5:42 pm*

Mike Cooper, a Coast Guard veteran and new Amazon employee, at a ceremony for graduates of an apprenticeship program that trains military veterans for technology jobs at Amazon. Seated are Jennifer Carlson, of the Washington Technology Industry Association, Washington Gov. Jay Inslee and Ardine Williams, an Amazon vice president. (Jordan Stead / Amazon)

Amazon on Wednesday held a graduation ceremony for its first five graduates of a pilot program to train veterans for technology jobs at the retail and cloud-computing giant.

By Matt Day

Common Skill Needs Across States

IT

- Software & App Development
- Cybersecurity
- System Operations
- Helpdesk
- Networking

Healthcare

- CNA
- Geriatric care

Advanced Manufacturing

- Aerospace – WA, CA, CO, …
- Maritime – WA, RI, CT, OR …
- Energy – NV, …

World's Oldest Organism: a grove of Quaking Aspen sharing one root system from Fish Lake National Forest

Big Cultural Shifts

Consumers	→	Creators
Stigma	→	Status
Degrees	→	Skills
Dead-end	→	Permeability
Programs	→	Systems
One and Done	→	Lifelong Learning

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