

# GOYN BOGOTÁ

THE IT SECTOR AS A KEY PATHWAY FOR  
OPPORTUNITY YOUTH

**A MARKETPLACE TO IMPROVE THE LINKAGES BETWEEN SUPPLY & DEMAND**

Final proposal from Accenture

20 April 2020

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# CONTEXT OF THE INITIATIVE

# THE IT SECTOR IS A KEY PATHWAY TO ECONOMIC OPPORTUNITIES FOR OPPORTUNITY YOUTH



# OUR DEFINITION OF THE IT SECTOR

The digital economy is “the new industrial context, with economic and social impact, that resulted from the massive adoption of ICT.” (Raúl Katz)

## THE TRADITIONAL VIEW OF THE ICT SECTOR

The ICT sector is part of the broader Transport, Storage and Communications industry in Colombia. It includes 5 areas: **infrastructure, ICT goods, ICT production services, digital platforms industry, and R&D + Innovation**. In 2017, the sector had 5,400 companies.



## A BROADER VIEW ON THE ICT SECTOR

**The ICT sector is transversal to all other sectors.** Sectors such as communications, professional services, financial services, manufacturing, and energy are highly digitalized. Others, like agriculture, construction, hospitality, healthcare, government and education, have a lot of progress to make in digitization.



# **A KEY OPPORTUNITY**

# WHY FOCUS ON THE IT SECTOR?

**1**

**THERE IS A  
HIGH  
DEMAND  
THAT WILL  
CONTINUE  
TO INCREASE**

**2**

**THERE IS A  
LACK OF  
TALENT TO  
MEET THIS  
HIGH DEMAND**

**3**

**IT OFFERS  
ENRICHING  
CAREERS FOR  
OPPORTUNITY  
YOUTH**

# COVID-19 WILL ALSO HELP ACCELERATE DIGITAL TRANSFORMATION

THERE WILL BE STRUCTURAL CHANGES IN THE WAY WE INTERACT WITH THE WORLD WITH AMPLE ROOM FOR MORE DIGITAL TRANSFORMATION

- Supply Chains
- Final Hand-offs
- Work from home needs
- Remote learning and training
- Digital Tourism & recreation

“How CIOs Should Reroute **Digital Transformation** In The COVID-19 Crisis .... Unlike past downturns, when digital technologies were not as crucial to **competitive advantage**, these initiatives **are central this time.**”  
Forbes, Marzo 2020

“**COVID-19: A Call for Digital Transformation**”  
Jumio, Marzo 2020

Source: Forbes, CIO, Nasdaq, NY Times, HBR, The Guardian, Economic Times India



# BOGOTA IS COLOMBIA'S TECHNOLOGY CENTER

# 38%

Higher education  
programs in IT are  
located in Bogota

# 81%

Of the IT sector is in  
Bogota, increasing  
40% between 2015  
and 2016



# 63%

Of businesses  
within the IT sector  
are located in  
Bogota



**Source:**

Caracterización de la brecha de talento digital en Colombia, Fedesoft, 2015  
Tecnologías de Información, Invest in Bogotá, 2020  
Observatorio TI, gov.co y Fedesoft, 2016

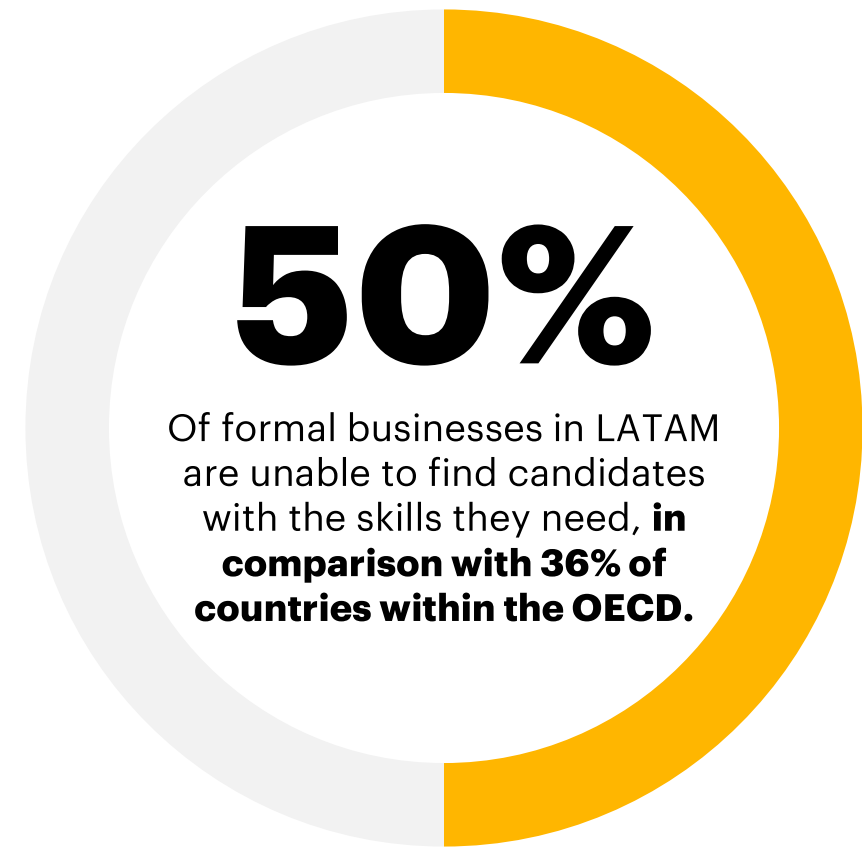


**The ICT stands out in volume and growth of job postings in Bogota. The ICT sector has grown 300% in published job postings between 2015 and 2018.**

**Source:**

Observatorio del Servicio Público de Empleo, Unidad Administrativa Especial del Servicio público de Empleo, 2017

**LATAM HAS A LARGE  
GAP BETWEEN SKILLS  
IN SUPPLY AND  
DEMAND, CREATING A  
CRITICAL CHALLENGE  
IN THE TRANSITION TO  
THE “KNOWLEDGE  
ECONOMY”**



# THERE IS A LACK OF TALENT IN BOGOTÁ

With more than 191,000 vacancies in the ICT, the number of graduates in IT are not meeting the demand. The businesses in this sector have serious challenges when it comes to finding talent and the skills they require.

# 191K

Vacancies in the ICT sector  
in 2018 in Bogota

# <31K

College graduates in  
Engineering, Architecture,  
City Planning in 2017 in  
Bogota



## Occupations hard to fill

- Software Developer (university-level engineer)
- Project manager for programming
- Software Developer (2-3 year degree)
- Database Developer
- Solution Architect
- Infrastructure engineer



**Source:**

Accenture análisis based on data from SISE y SNIES, 2019  
Clúster de Software y Tecnologías de la Información Bogotá, PNUD y CCB, 2018

# THE IT SECTOR OFFERS ENRICHING CAREERS FOR OPPORTUNITY YOUTH



## GREAT SALARIES & BENEFITS

The IT sector provides top 5 salaries (e.g. \$2.4 million for systems engineers, \$1.4 million for database developers). The majority are employed with indefinite contracts.



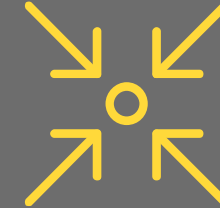
## JOB OF THE 21ST CENTURY

Future labor demand will require an exponential increase in digital skills (while the occupations most at risk of automation are in maintenance and repair).



## WITH GROWTH POSSIBILITIES

Job placement of >90%, occupation rates of >95% and a high retention rate due to 50k vacancies in the market, the career pathways in the sector are very promising for youth.



## WITH ACCESSIBLE ENTRANCE POINTS

Starting at entry-level jobs, like junior programmers, junior designers, junior digital marketers, or agile methodology operations specialists, there are many points of entry available for opportunity youth.

### Source:

Clúster de Software y Tecnologías de la Información, PNUD y Cámara de Comercio de Bogotá, 2018  
Medium, 2018  
Mapa del ecosistema, Accenture, 2019  
Consejo Nacional de Acreditaciones, 2020  
El futuro del trabajo en América Latina y el Caribe, IDB, 2019

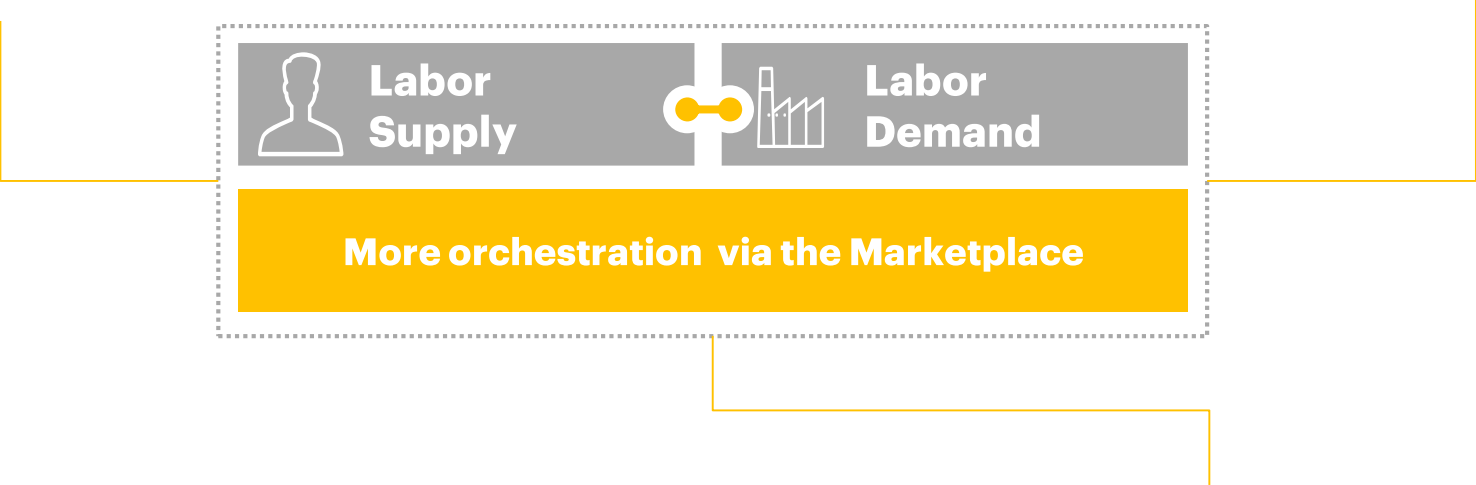
# **VISION FOR THE MARKETPLACE**

# MARKETPLACE: VISION

We want to improve the orchestration between supply and demand with a Marketplace

**Improve the understanding, information, and exchange** of information between supply and demand

**Promote and accompany relevant changes** within the skilling programs and companies to optimize the inclusion of OY



**Improve the orchestration**, strengthen the supply and demand, and scale the supply of IT talent

# MARKETPLACE: OBJECTIVES

## REDUCE THE HUMAN TALENT GAP IN IT

Includes:

**Increase number of students enrolled  
and graduates in IT, especially OY**

**Increase scale of skilling in IT**

**Increase job placement rates in IT**

## INCREASE THE NUMBER OF OY IN IT CAREERS

We seek to reconnect NEETs and formalize youth in the informal sector through opportunities in the IT sector

## INCREASE INFORMATION ABOUT SUPPLY AND DEMAND IN IT

Leveraging what is already available, the information regarding the human talent gaps in IT is a benefit in-and-of itself



GOYN Bogotá

GOYN Bogotá

15

# MARKETPLACE: DETAILS

The Marketplace would help understand the supply and demand in depth, creating specific services to help improve linkages between the two

- **Characterize the current skilling programs**, from university-level through to bootcamps
- **Promote recognition and accreditation of the skilling programs** among the private sector
- **Create learning pathways** (creating chains between skilling programs) to better prepare graduates for the labor market
- **Recommend changes** in the skilling programs' quality and relevance (ex. learning environments, curriculums, etc.)
- **Understand the current and future demand** of occupations and skills, leveraging existing research and studies
- **Promote a change in narrative and perception** among companies in the inclusion of opportunity youth
- **Accompany changes in companies' human talent processes** to create greater inclusion of opportunity youth
- **Create vocational orientation opportunities for opportunity youth** with the companies



**Labor Supply**



**Labor Demand**

**MORE ORCHESTRATION VIA THE MARKETPLACE**

- **Provide services to the ecosystem** – including skilling programs, opportunity youth and the companies – considering the priorities uncovered to improve orchestration between supply and demand, strengthen the supply and the demand, and scale the supply

# MARKETPLACE: **VALUE PROPOSITION (1 OF 2)**

The objective of Marketplace is to generate the following benefits for the supply and the demand



## Labor Supply



## Labor Demand

- **More cost-efficiency and effectiveness** in seeking information and recommendations for improvements, and especially in achieving and improving placement rates
- **More access to companies** to form partnerships and get their graduates placed
- **More ability to influence other systems** (private sector, government) by working and advocating together
- **Additional resources** to scale skilling programs, by fundraising together (i.e. “grow the pie”)

- **Access to more candidates** in IT by having greater access to skilling providers / programs
- **Access to better prepared / trained candidates** who meet the company’s requirements
- **Access to more information** about candidates, including details about their training
- **More ability to influence** skilling programs
- **More ability to influence government** by working together
- **More resources** to reduce the risk of hiring OY

# MARKETPLACE: **VALUE PROPOSITION (2 OF 2)**

Additionally, the Marketplace also has a value proposition for the youth and formal labor intermediation / Public Employment Services



## Youth

- **More information** about the world of IT and the available skilling programs
- **More access and information** about the skilling programs and about potential employers
- **Better skilling programs** with improved curriculums
- **Greater access to mentors** within the companies / employers
- **More support after graduating** from the skilling programs through monitoring
- **More accreditation** of the skilling programs to continue studying in formal education
- **Greater access to scholarships** for IT skilling programs



## Intermediaries

- **Increase the number of people employed in IT**, a key metric for the PES network
- **Agile innovation**, with new or differentiated services that complement existing services in PES
- **Knowledge transfer and new services and models for PES** to integrate into their service provision

The Marketplace looks to promote and complement the Public Employment Service. PES providers will be included from the start. The Marketplace will also consider registering as a formal provider of the PES network.

# PILOT FOR THE MARKETPLACE

# WE WOULD START BY FOCUSING ON SKILLING PROVIDERS THAT HELP CLOSE HUMAN TALENT GAPS\*

*Because...*

1. **THESE PROVIDERS ARE MORE ORIENTED TOWARDS VULNERABLE POPULATIONS, INCLUDING OPPORTUNITY YOUTH**
2. **THEY HAVE MORE FLEXIBILITY TO JOIN A PROGRAM UNDER THE GOYN UMBRELLA AND THEY ARE MORE AGILE IN THEIR APPROACH TO CHANGE**
3. **THESE PROVIDERS HAVE TYPICALLY NOT BEEN MAPPED IN EXISTING RESEARCH**

Example; All students from the EMPODERATECH program are from “strata” 1-3, (with the majority from stratum 2)

\*I.e. digital “bootcamps”, or informal IT skilling programs

kuepa



Platzi



ACÁMICA



Fundación corona



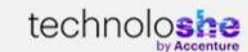
Citi Foundation



P-TECH™



<Laboratoria>  
Talento que transforma



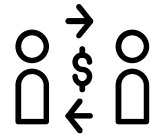
# MARKETPLACE: INITIAL VALIDATION

## WE HAVE RECEIVED POSITIVE FEEDBACK FROM THESE SKILLING PROVIDERS



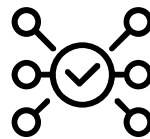
GREAT INTEREST IN THE IDEA AND IN JOINING THE MARKETPLACE

“I think it is great, **it makes a lot of sense and I would like to participate.**”



COMMON CHALLENGES, WHICH CAN BE SOLVED WITH SHARED SERVICES

“There are a number of **needs that this could help us cover**, I find it super cool.”



WILLINGNESS TO SHARE AND TO LEARN

“We have been skilling in IT for several years and have learned a lot along the way. We would **like to share** the learnings and continue to receive feedback in the process.”

# MARKETPLACE: SERVICE OFFERINGS

These services were the most mentioned by the skilling providers during the initial market validation



Greater **access to companies** for placing the skilling providers' graduates



Development of **accreditation system** recognized by the private sector



**Joint advocacy** to create stackable credentials with formal education



Finding or creating a pipeline of **qualified IT teachers**



Consultations and recommendations on **sustainability models** for skilling providers



**Mentoring and orientation programs** with companies



**Monitoring and supporting youth** during their educational and employment journeys



**Positioning** non-university career tracks in IT



**Fundraising** from the private sector to finance skilling providers



Skills **leveling program** (e.g. digital literacy, math, logic)

# MARKETPLACE: SAMPLE SERVICES

These are three examples of services that the Marketplace could offer based on the needs of supply and demand. There is a lot of diversity in the strategy / scope / approach required for each one.

Companies that create partnerships to hire Opportunity Youth have found business value in recruiting and hiring efficiency, including a decrease in interview-to-hire ratio, better pre-screening and assessment, and trial hiring periods.

INTERVIEW COSTS & PRE-SCREENING

2:1

Value: Pre-Screening by a partner reduces interview-to-hire ratio.  
SK Food Group reduced its interview-to-hire ratio to 2:1.

share resources

SKILLS ASSESSMENT

STATE STREET

Value: Skill assessment helps ensure candidates are job-ready for your specific needs.  
State Street, UBS, & Rollins leverage workforce partners to pre-screen interns.

share resources

TRIAL HIRING

75%

Value: A time-limited trial, whether an internship or apprenticeship, reduces hiring risk.  
Gap Inc. converted 75% of their interns to hires.

share resources

Blog - Latest News

You are here: Home / Featured Articles / ...

Members of the Reconnecting Youth Campaign Meet with Senators to Urge Investment in Pathways to Opportunity

APPRENTICESHIPS  
GET YOUR CAREER GOING

GET IN GO FAR APPRENTICESHIPS

## FUNDRAISING FROM THE PRIVATE SECTOR TO FUND THE GROWTH OF SKILLING PROVIDERS

Start by creating the **business case** so that companies understand they can and should be investing in programs that close human talent gaps. Work with friendly companies that are willing to share their data on youth inclusion and hiring to put together a business case that includes tangible and intangible benefits of hiring youth and how it translates into financial value.

## JOINT ADVOCACY FOR STACKABLE CREDENTIAL SYSTEM

Form a robust group of **skilling providers to jointly advocate to the Ministry of Education**, ASCUN, ACIET, ASENOF, etc. to obtain formal accreditation or recognition so that graduates can continue on their learning pathways (e.g. moving into formal TVET or university-level programs).

## MARKET POSITIONING OF NON – UNIVERSITY CAREERS IN IT

**Joint marketing and communications campaign** to raise the prestige of studying in these types of non-university IT programs. Possibly also establishing partnerships with ACIET and ASENOF. Help the labor market and, especially, the youth to see the value of these programs.

# GENERATING SYSTEMIC CHANGE



## INNOVATION

Generate innovation, taking risks and trying new models



## INSITUTIONAL CAPACITY-BUILDING

Influence government and build institutional capacity (e.g. with MEN, SPE, MinTrabajo)



## COLLABORATION / KNOWLEDGE CENTER

Generate shared learnings, evaluations and knowledge



## LONG-TERM FABRIC

Build collaborative fabric and networks between supply and demand (between youth and companies, between skilling providers and companies)



## TRAINING

Develop and train key resources such as trainers, facilitators, HR personnel, observatories, etc.



## BUILD ON A STRONG FOUNDATION

Leverage existing processes (e.g. National Qualifications System, IT Observatory, etc.)



## LONG-TERM CHANGES

Generate process and model changes, e.g. companies diversity and inclusion programs



## INCLUENCING FINANCE

Influence existing finance towards more effective and efficient models



## PERCEPTION CHANGE

Generate changes in perception and narrative: about IT, non-university careers, hiring of OY, etc. (e.g. working with ACIET and ASENOF)



## OPEN DATA

Develop open source data and data collection models

# PILOT IMPACT AND POTENTIAL SCALE

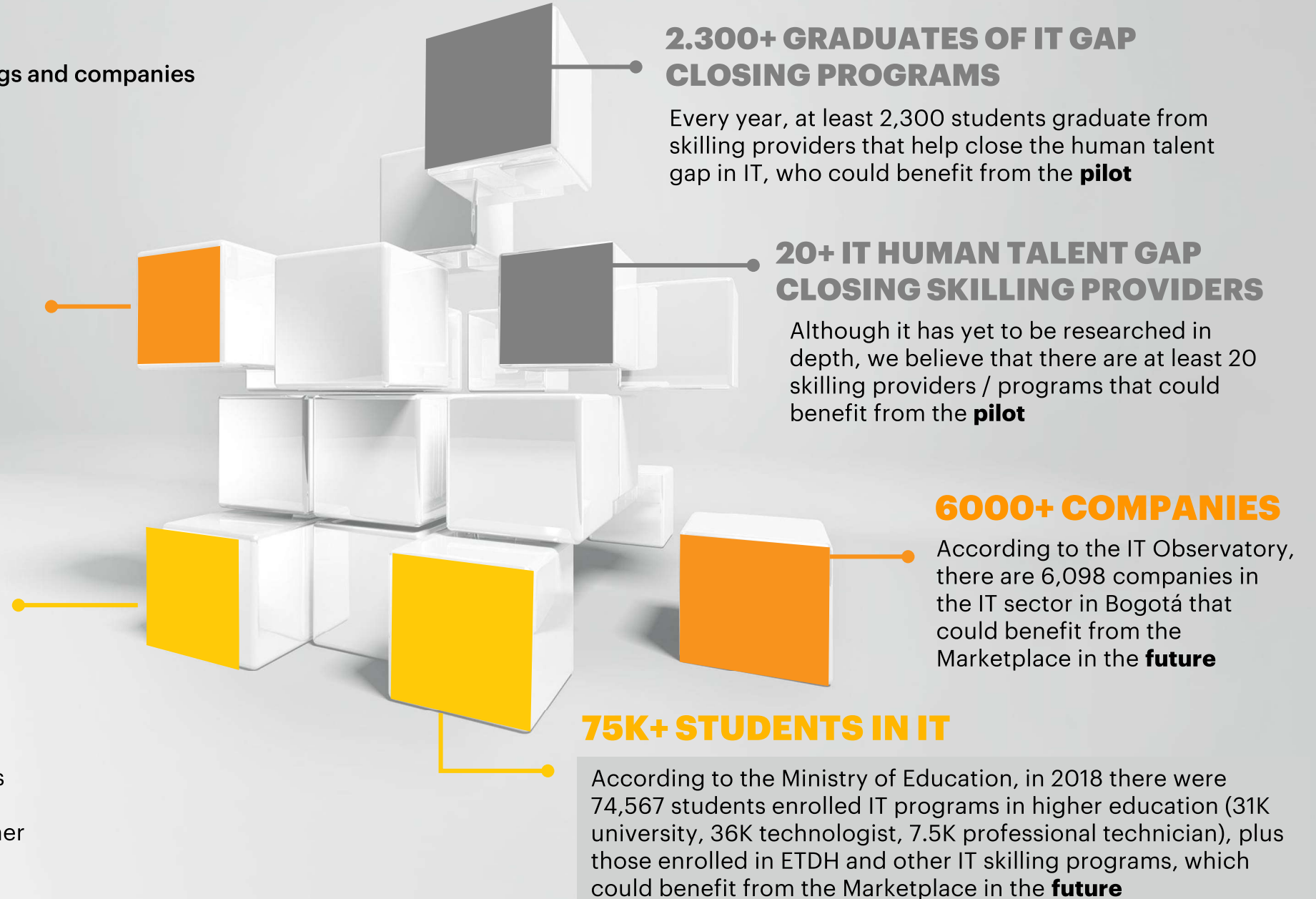
-  Pilot impact
-  Future impact on educational offerings and companies
-  Future impact on youth in IT

## 118+ EDUCATIONAL PROGRAMS

According to SNIES, there are 118 Higher Education undergraduate programs in systems engineering, telematics and related careers that could **benefit in the future** from the Marketplace (56 universities, 40 technology programs and 22 vocational professions)

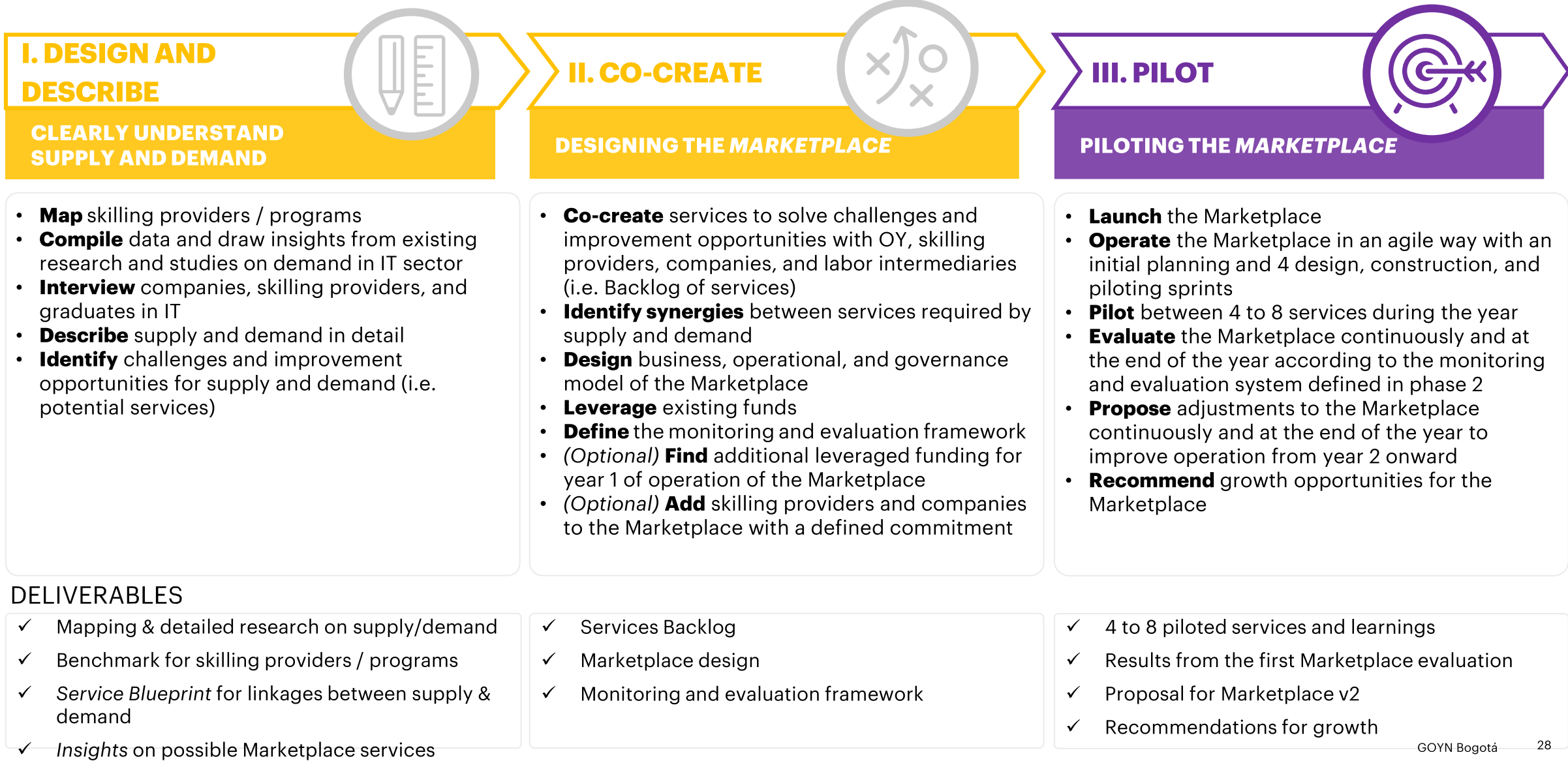
## 5000+ IT GRADUATES

According to the Ministry of Education, every year 5,135 undergraduate IT students graduate in Bogotá (2,149 university students, 2,419 technologists and 567 professional technicians), plus those who graduate from ETDH and other IT skilling programs, who could benefit from the Marketplace in the **future**



# METHODOLOGY

# UNDERSTANDING SCOPE AND METHODOLOGY, DESIGNING AND PILOTING THE MARKETPLACE



# PROPOSED TEAM

We propose a team of 2 people for the design and operation of the Marketplace, along with a flexible team of advisors depending on project needs.

## DISCOVER, DESCRIBE, AND CO-CREATE

### Execution Team



#### Project Lead

- Responsible for project and deliverables
- Knowledge and experience with education and employment
- Experience with public-private partnerships
- Knowledge and experience in business and operational model design



#### Consultant

- Support in interviews, workshop, and model design
- Knowledge of education and employment
- Design thinking experience
- Experience in relationships with senior actors, esp. in the private sector
- Ideally has experience in business and operational model design



#### Editor (part time)

- Support in drafting the supply and demand mapping and research

### Advisory Team



Education and  
Training Advisor



IT Sector and  
Digital Talent  
Advisor



Human Talent  
Advisor, HR



Inclusion and  
Diversity Advisor



Design  
Thinking  
Advisor



Business Model  
Design and  
Operating Model  
Advisor

## PILOT

### Execution Team



#### Marketplace Director

Both resources will need to be experienced in a variety of subjects, and they will need to be flexible, adaptable, entrepreneurial, and motivated. The following skills will also be required:

- Design, planning, management, and execution of projects
- Education and employment
- IT and digital sectors
- Agile methodology
- Design thinking and facilitation



#### Senior Coordinador

Finally, it is ideal if the resources have relationships and contacts among potential partner organizations.

### Advisory Team and Experts

The team will vary depending on the services selected to run each sprint. Advisors and technical consultants will be sought out according to the selected services. For example: marketing and communications, public policies, HR, labor, financial, etc.

# PROPOSED PRICING

We are seeking financial support of **USD\$320,000** to design and pilot the Marketplace over a total duration of **18 months\***.

## DISCOVER, DESCRIBE, AND CO-CREATE

|                                  | USD       | COP**          |     |
|----------------------------------|-----------|----------------|-----|
| Core Team                        | \$ 44,000 | \$168,388,000  | 63% |
| Advisory Team                    | \$ 12,000 | \$ 45,924,000  | 17% |
| Expenses                         | \$ 6,000  | \$ 22,962,000  | 9%  |
| GOYN Advisory and Administration | \$ 8,000  | \$ 30,616,000  | 11% |
| Total                            | \$ 70,000 | \$ 267,890,000 |     |

## PILOT

|                                    | USD        | COP**          |     |
|------------------------------------|------------|----------------|-----|
| Core Team                          | \$ 140,000 | \$ 535,780,000 | 56% |
| Advisory Team                      | \$ 24,000  | \$ 91,848,000  | 10% |
| Expenses and Consulting of Experts | \$ 60,000  | \$ 229,620,000 | 24% |
| GOYN Advisory and Administration   | \$ 26,000  | \$ 99,502,000  | 10% |
|                                    | \$ 250,000 | \$ 956,750,000 |     |

\*Includes a month of project preparation and closure (in addition to the 16 months already estimated: phases 1 and 2 last 4 months, and phase 3 lasts 12 months).

\*\*Exchange rate COP\$3,827 to USD\$1.

# **MINIMUM VIABLE PRODUCT**

**AGILE ALTERNATIVE  
ESP. IN THE CONTEXT OF COVID-19**

# 4 MONTHS AND USD\$100k TO PILOT 6 SERVICES\*

|        | <div>Labor Supply</div>                                                   | <div>Labor Demand</div>                                                                      |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <b>Potential impact: 756K opportunity youth</b><br>(esp. 345K NEETs) + 80K average graduates                                                               | <b>Potential Impact: 2.300 graduates in IT**</b><br>and any company that requires IT talent                                                                                     |
| Mo1    | <b>1) INFORM AND GUIDE</b><br>Pilot Nipu, an existing app<br>Have skilling program students create a basic web platform + social networks                  | <b>2) CREAT BIZ CASE TO HIRE TODAY</b><br>Pilot with Accenture and 1 Endeavor company, leveraging Grads of Life’s methodology, and with their approval, add to our web platform |
| Mo2    | <b>3) ADD MORE GUIDANCE THROUGH “ROLE MODELS”</b><br>Add STEAMRole to Nipu webpage and social media                                                        | <b>4) CONNECT STUDENTS WITH MENTORS</b><br>Enable students to select mentors on our web platform                                                                                |
| Mo 3-4 | <b>5) POSITION AND MARKET PROGRAMS</b><br>Design and execute “below-the-line” marketing and leverage the communications channels of the skilling providers | <b>6) SHOW CANDIDATES</b><br>Add student/graduate profiles of programs to the web platform and social networks                                                                  |

\*Full time team of senior people, advisors, and expenses required for services (e.g. marketing materials)

\*\*Initial estimate of graduates from IT skilling providers that help close human talent gaps



THE ASPEN INSTITUTE

# GLOBAL OPPORTUNITY YOUTH NETWORK: BOGOTÁ

*EL FUTURO ES JOVEN*