

Entrepreneurship, Startups,  
Applied Research, Design &  
Innovation:  
**HEIs Support  
Mechanism**

**Dr Shoab Ahmed Khan**

## Pakistan winning 2 Golds in APICTA 2014

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- Winners in startup and students projects
- While competing with 18 economies of Asia Pacific Region





Pakistan Winning 3

3 Golds in APICTA 2015 |



- Pakistan winning 3 Golds

# APICTA 2016

# Pakistan winning Gold

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- Startup Category in APICTA 2017





A BEAUTIFUL  
WORLD  
FULL OF AMAZING  
CHALLENGES



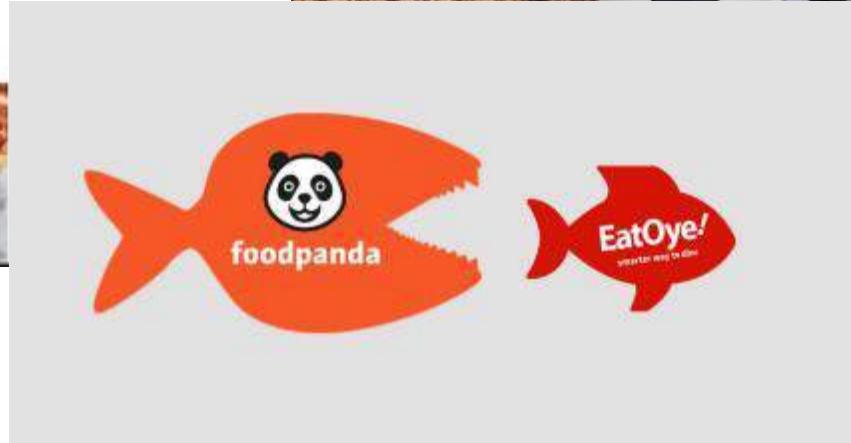
+1(415) 745-2277  
INFO@PILABS.COM



## Food Delivery from Islamabad's Best Restaurants

Enter your block/area

FIND RESTAURANTS NOW





**CureMD**  
Practice without boundaries

Solutions +      Pricing      Company +

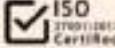
# Hello Future

The Most Advanced EMR has just Arrived

[Learn more >](#)

A photograph of a laptop screen displaying the CureMD EMR software. The interface shows a sidebar with navigation options like 'Dashboard', 'Patients', 'Visits', etc., and a main panel with patient records and a line graph. To the left of the laptop is a black coffee mug with a white design.

# Candela



Making Retail *Simple*

Candela is an enterprise retail software solution. It can manage a small retail outlet and can scale-up to manage a retail chain of hundreds of stores.



Download Software



We Know **Web Traffic**

Let the numbers speak for themselves.

This is what we do. It's what we're about. We're passionate about driving the highest quality traffic to customer-ready products.



[HOW IT WORKS](#)[OUR CARS & PRICING](#)[OUR TEAM](#)[EARN CRED](#)

a ride in  
utes with  
tap of a  
utton

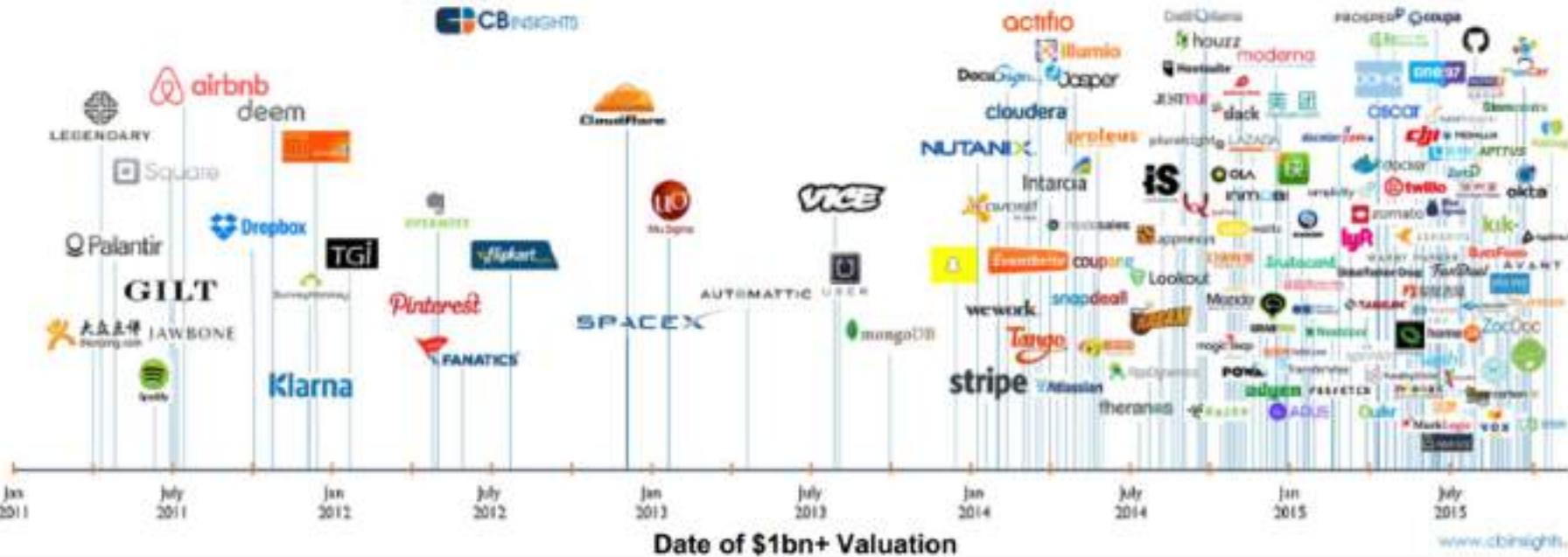
[Sign up](#)



# Rise of Unicorn

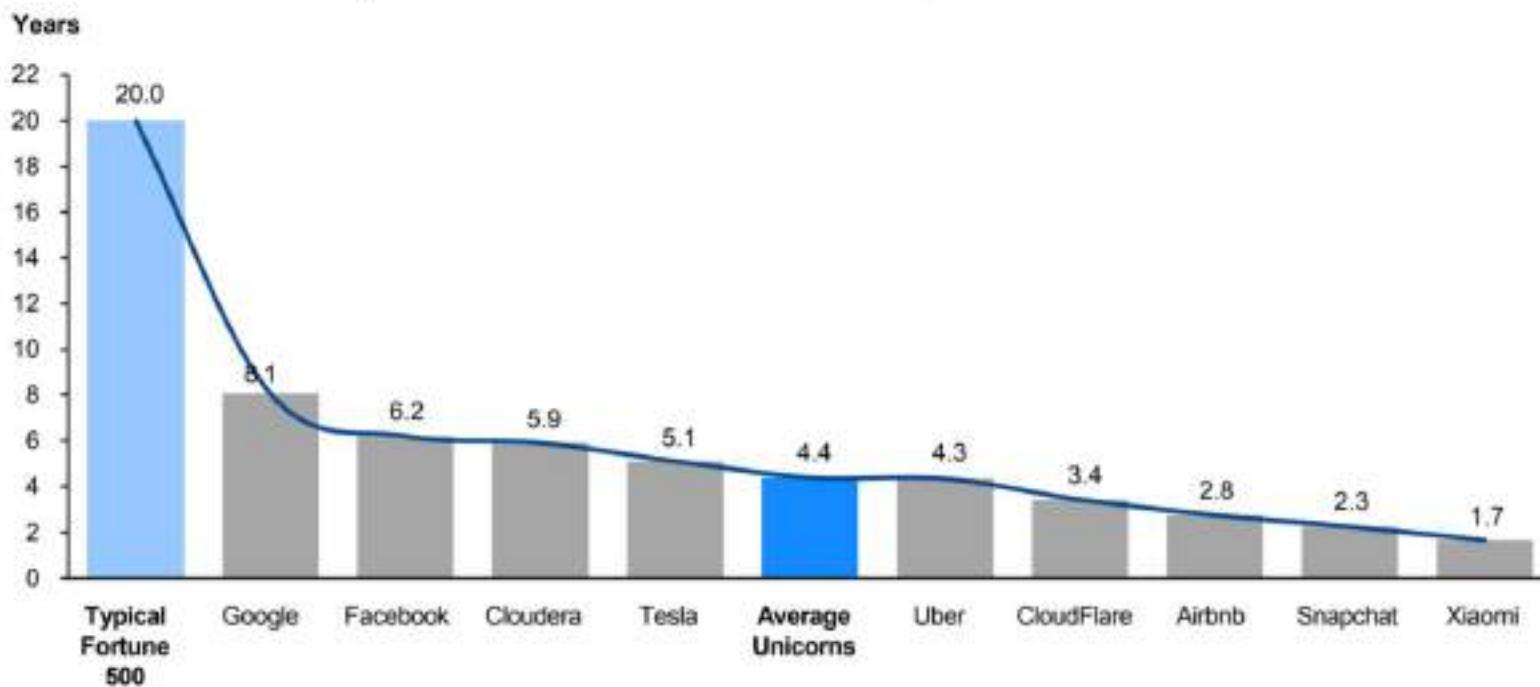
The Increasingly Crowded Unicorn Club  
Private Unicorns since 2011

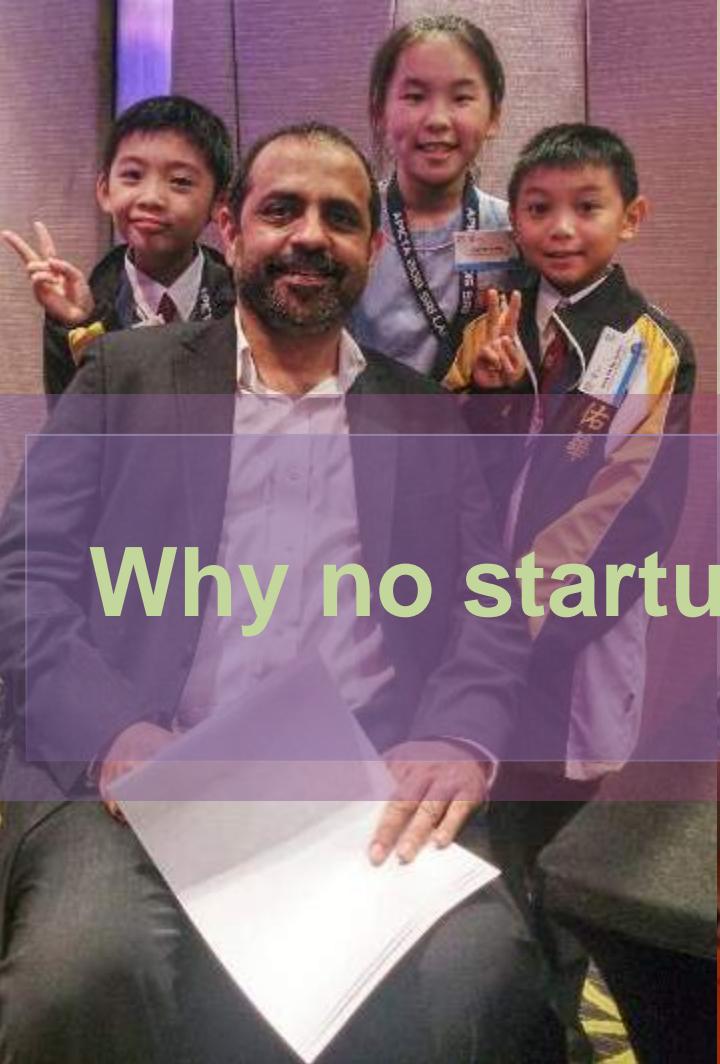
Created by:  
 CB INSIGHTS



Digital startups are achieving scale far quicker than analog companies ever did

# Time to Rise





# Why no startup is clicking in Pakistan?

# What is a Startup?

- A startup is a company working to solve a problem where the solution is not obvious and success is not guaranteed
  - The founders are the entrepreneurs

# Entrepreneur

- Someone who exercises initiative by **organizing a venture** to take benefit of an **innovation** or a novel idea
- An entrepreneur supplies risk capital as a **risk taker**, and monitors and controls the business activities
- The entrepreneur is usually a sole proprietor, **a partner**, or the one who owns the **majority of shares** in an incorporated venture.
- **Entrepreneurs are not necessarily motivated by profit but regard it as a standard for measuring achievement or success.**



# MAPPING TECH STARTUPS



More than 90%  
of tech startups fail.

The reasons for these failures  
are as varied as the methods to  
success. Why do some startups  
succeed while others fail?

# Recipe of Success for the 10%

- The product is perfect for the market: right timing
- The entrepreneur does not ignore *anything*
  - *A good product idea*
  - *A strong technical team*
  - *Business processes*
- The company grows *fast*
  - Highly accelerated growth required to secure later-stage venture capital
- The team knows how to recover
  - A startup fails once the founders give-up



2017

Most Exciting Startups of 2017

## Hudl is a tech tool for sports teams.

**Where it's from:** Lincoln, Nebraska

**What it is:** Hudl is a key component in helping [more than 100,000 sports teams](#) nationwide win games. The startup allows coaches to record or upload video to its platform, annotate it with text, drawings, or voice, and share it with players on their mobile devices.

**Founders:** David Graff, Brian Kaiser, and John Wirtz

**Funding:** \$77 million from Accel Partners, Nelnet, Nebraska Angels, and others.



**Hudl CEO David Graff.** Hudl

**Nowait lets you get in line at restaurants without leaving your house.**

**Where it's from:** Pittsburgh, Pennsylvania

**What it is:** Nowait allows users to virtually "get in line" at a restaurant and track their place without stepping foot through the door ahead of time. In August, Yelp made [an \\$8 million investment](#) in Nowait and integrated Nowait's technology into the Yelp app. Now, if Yelp users find a restaurant they like, they're now able to get in line using Nowait directly within the Yelp app.

**Founder:** Robb Myer

**Funding:** \$22 million from Yelp, Birchmere Ventures, Carnegie Mellon University, and others.



Nowait CEO Ware Sykes. Nowait

## Nucleus is building the intercom of the future.

**Where it's from:** Philadelphia, Pennsylvania

**What it is:** Intercoms aren't the sexiest home technology, but Nucleus wants to turn it into one of the most useful. Backed by Amazon, the startup built a touch-screen device that can be placed anywhere inside a home and responds to voice commands using Amazon's Alexa technology.

It's a lot more than a typical intercom: the Nucleus also lets you audio and video chat between rooms or with other homes that have the system. Plus, you can tap into Alexa to do things like read headlines or listen to music. Nucleus [went on the market in August](#) and sold out on Amazon on the first day.

**Founder:** Jonathan Frankel

**Funding:** \$9 million from The Alexa Fund, SV Angel, and others.



A Nucleus intercom device. Amazon

**Convoy wants to revamp the multibillion-dollar trucking industry.**

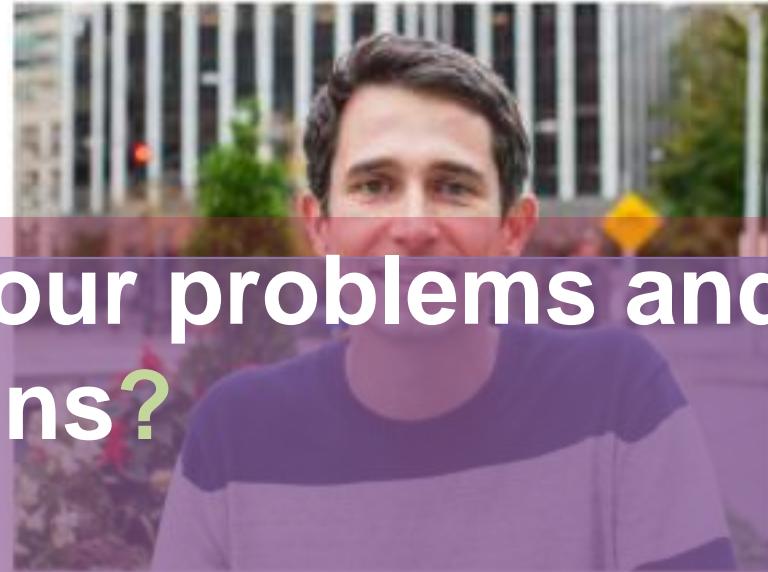
**Where it's from:** Seattle, Washington

**What it is:** Convoy wants to be the "Uber for trucks": an online service that, with the click of a button, lets shippers order a truck and keep track of drivers. Convoy cuts out a middleman that exists in nearly every part of the trucking industry — brokers — by companies who need things shipped directly to them. Convoy also wants to help shippers cut costs by getting rid of brokers.

# No relevance to our problems and pains?

**Founders:** Dan Lewis and Grant Goodale

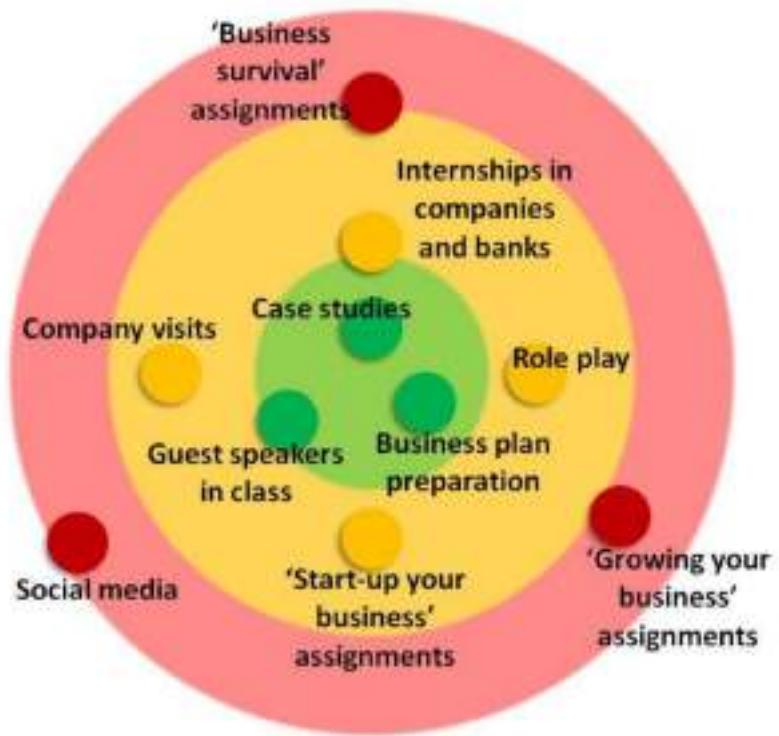
**Funding:** \$18.5 million from Greylock Partners, Bezos Expeditions, Marc Benioff, and others.



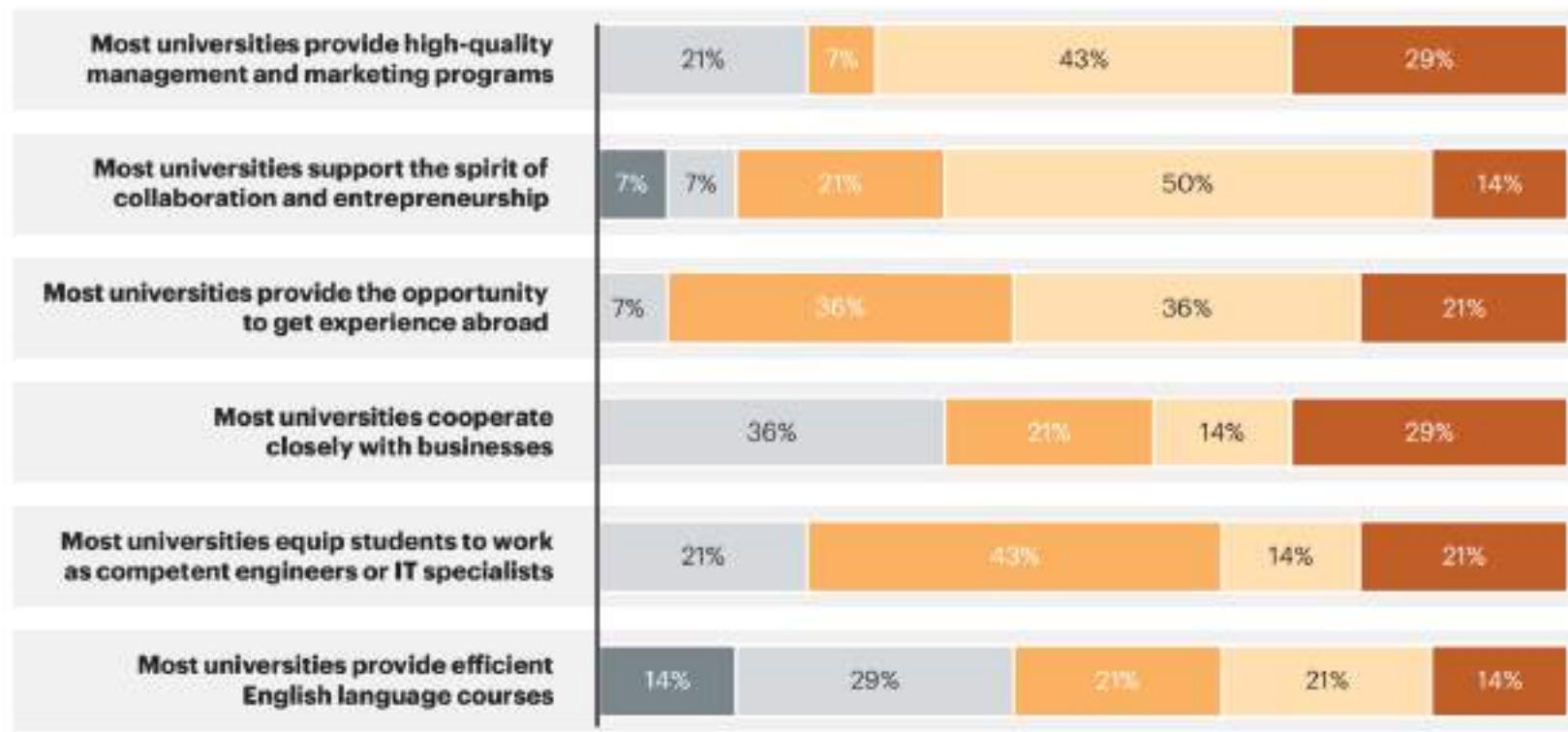
Convoy CEO Dan Lewis. Convoy

# HEIs Support Mechanism

- Becoming an entrepreneur is an increasingly popular career choice among graduates
- University careers support focusses on getting an internship or a job
- HEIs current support for startup
  - A course in entrepreneurship
  - Invited talks from Alumni
  - Business ideas competitions
- No seed capital, no space and no technical assistance
- Professors are busy in tracking on their tenure tracks, teaching & publishing, compiling SARs, OBE documentations etc

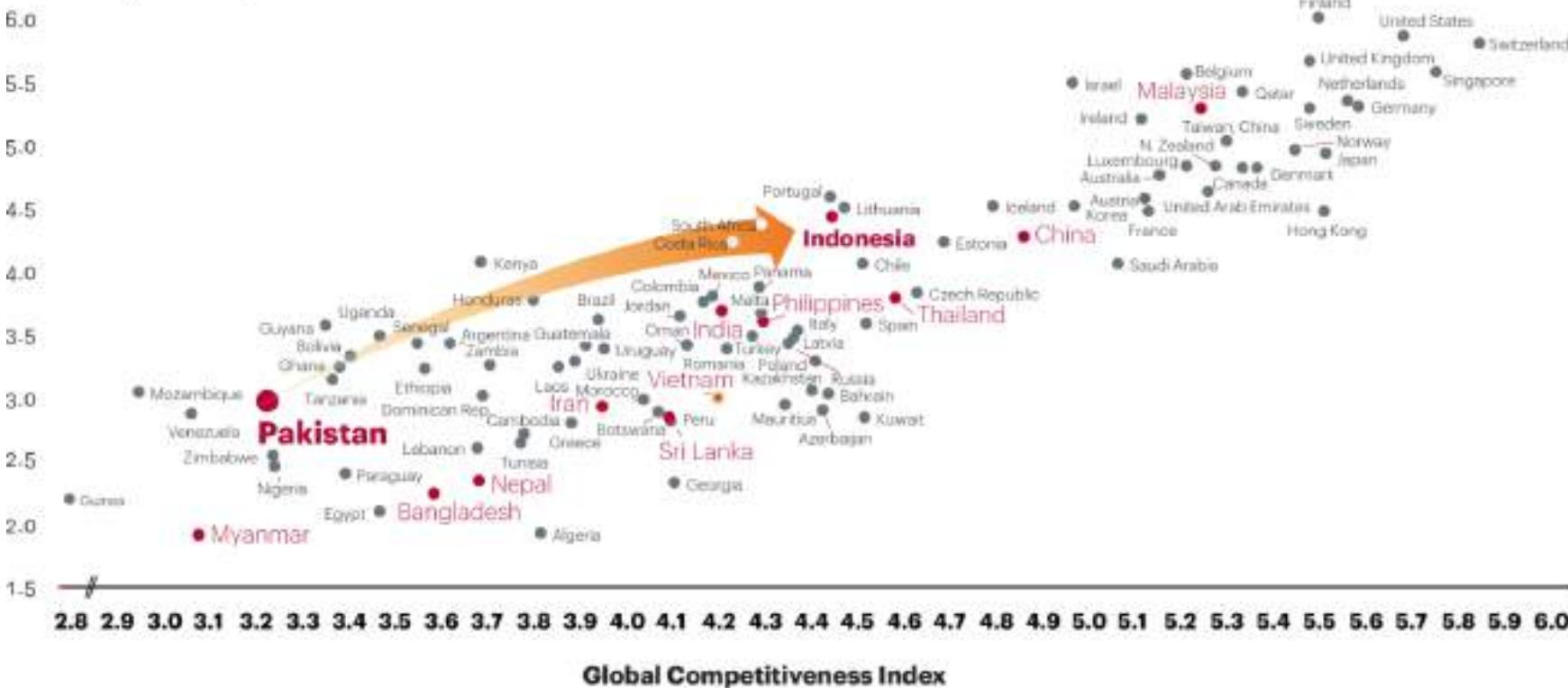


## Entrepreneurs have qualms about higher education in Pakistan

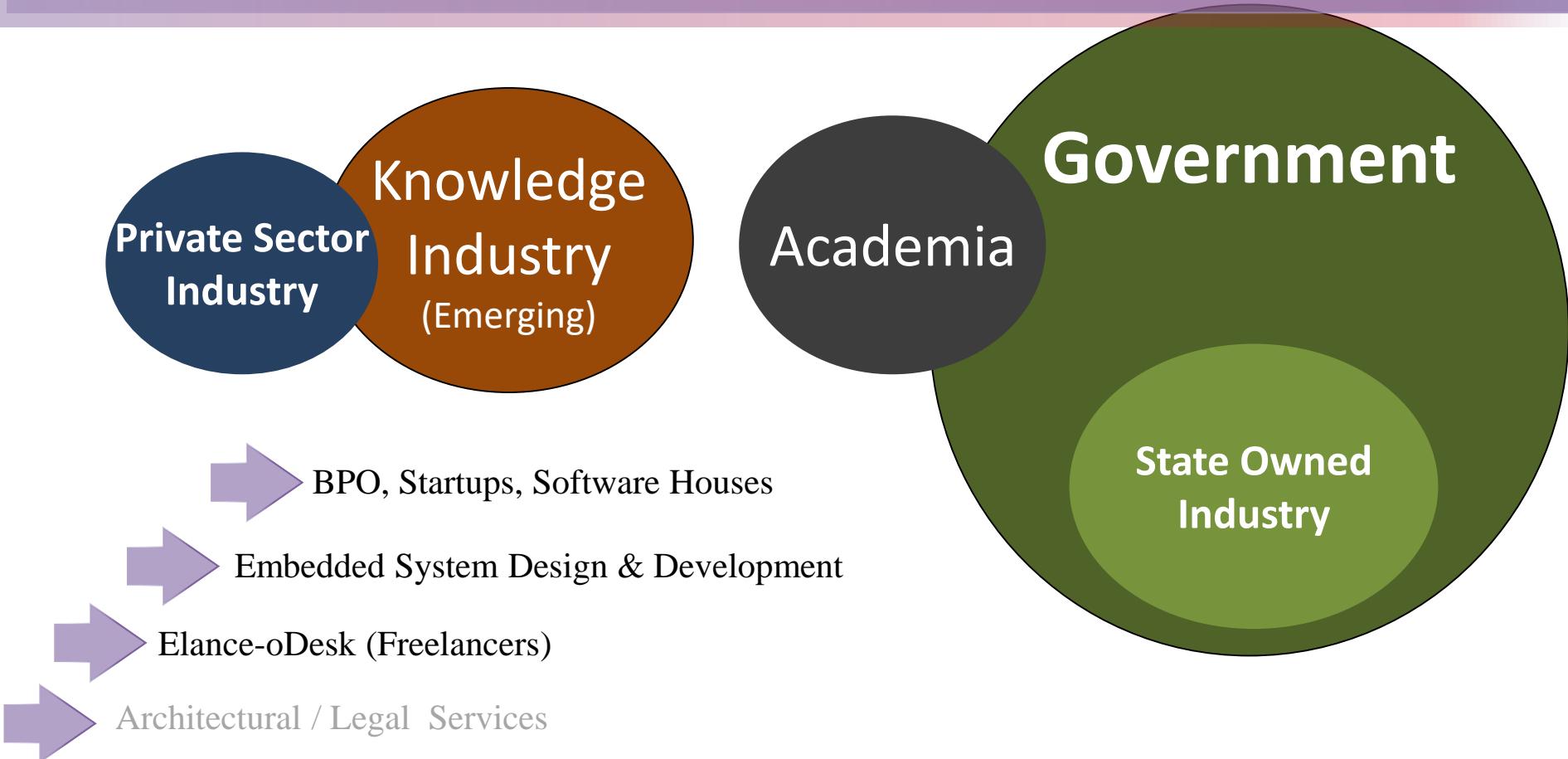


**Countries thrive when industries and universities work together**

## **University-industry collaboration in R&D**



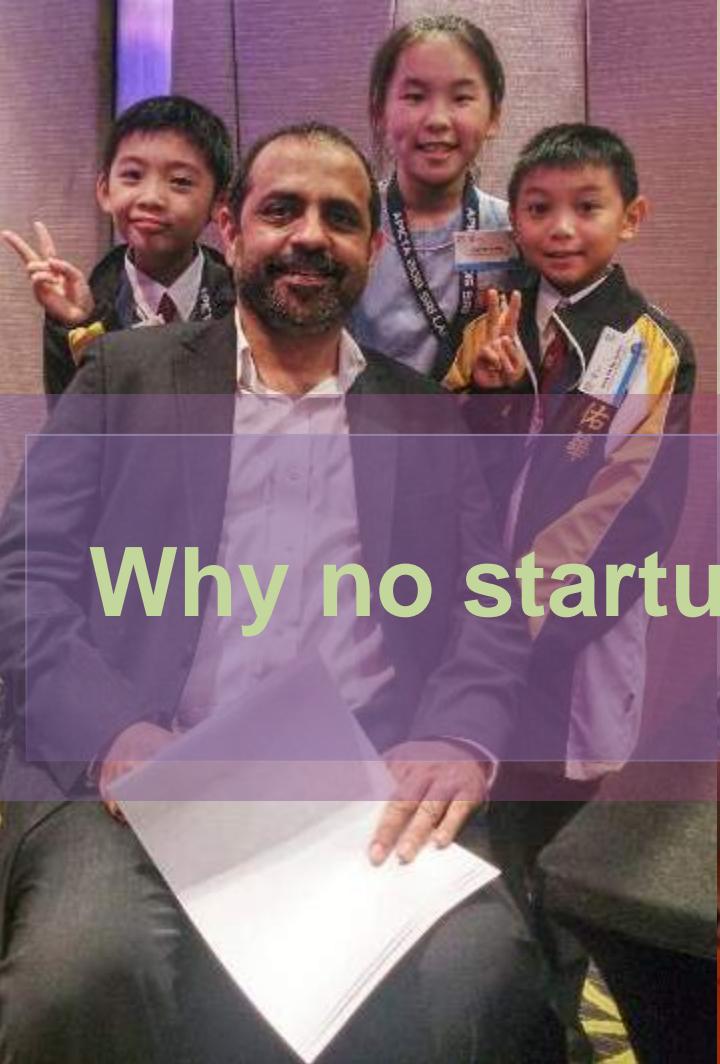
# Reason: We Live in Silos



## ICT Fund Eco-System Cycle

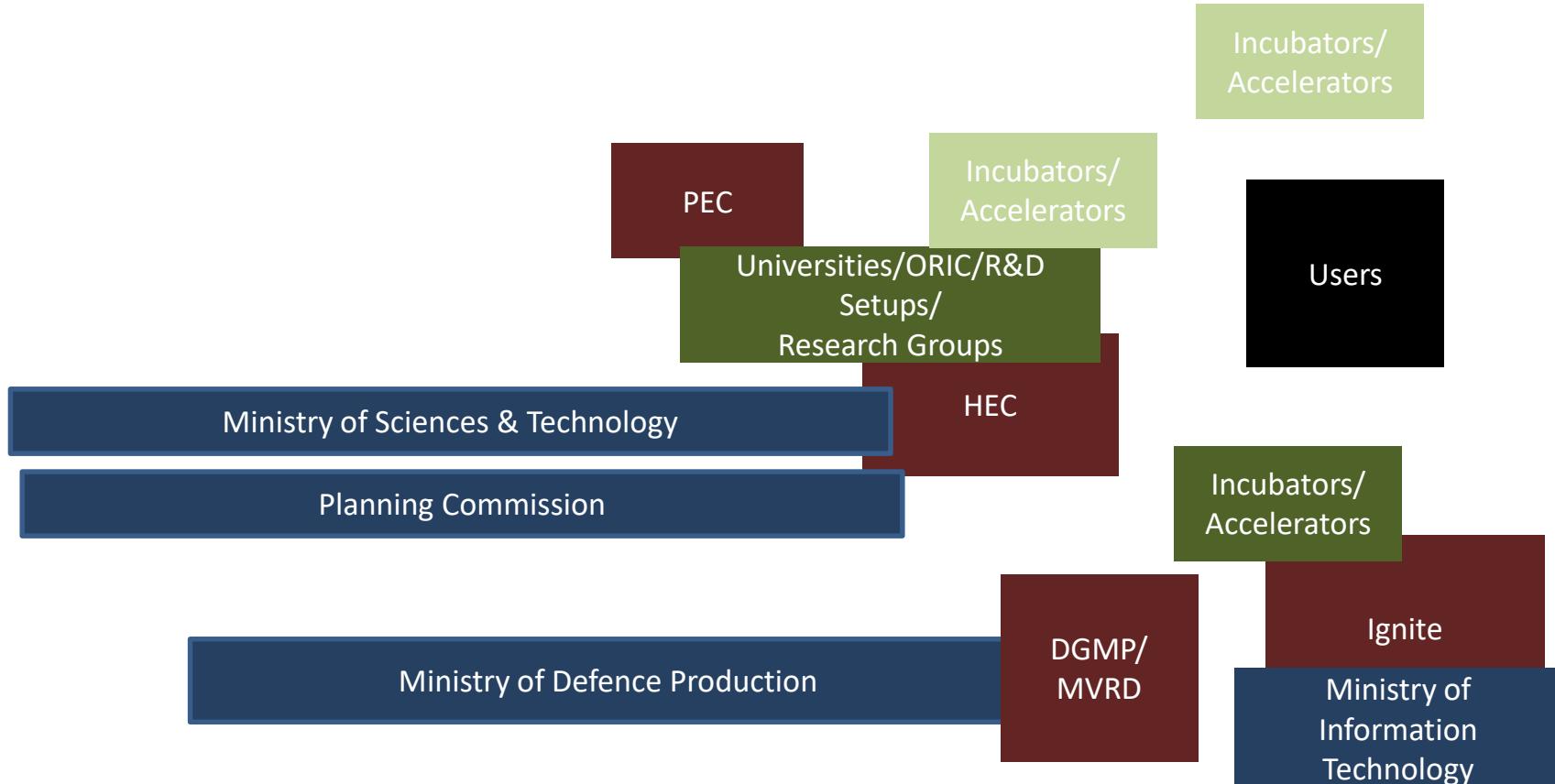


Ecosystem:  
Ignite new focus



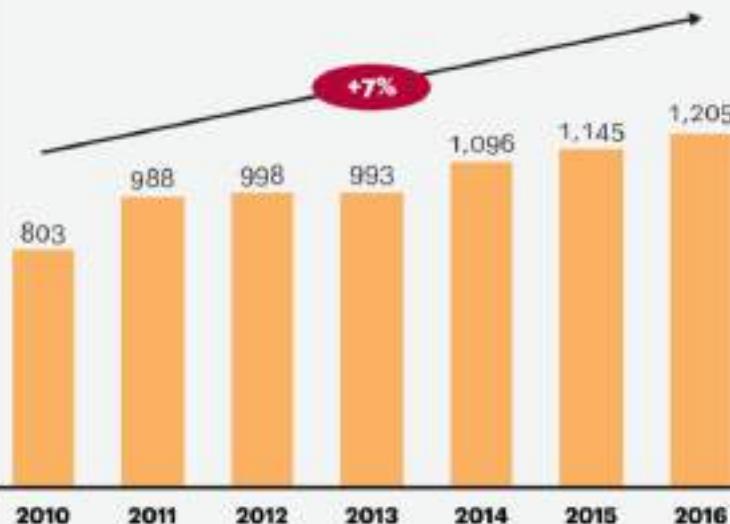
# Why no startup is clicking in Pakistan?

# Stakeholders



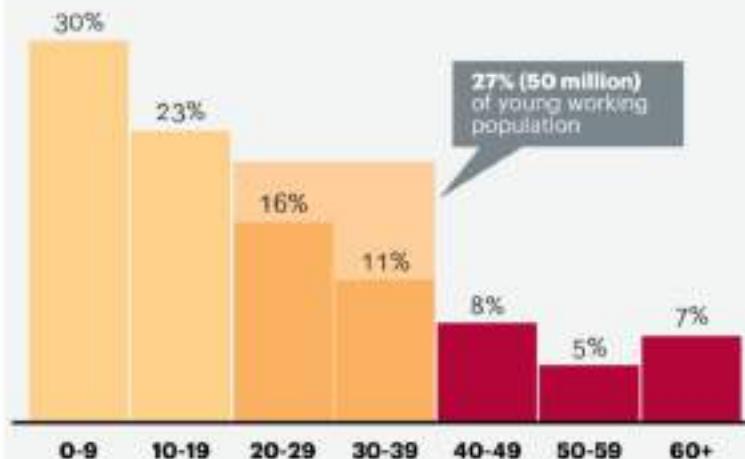
## Pakistan's consumer market is expanding

Consumer spending per capita  
(\$)



Age of population

Total population: 189 million



# Glue?

**Gluing all the stakeholders by providing them a common platform:  
Center of Excellences**

Ministry of Sciences & Technology

Planning Commission

Ministry of Defence Production

PEC

Incubators/  
Accelerators

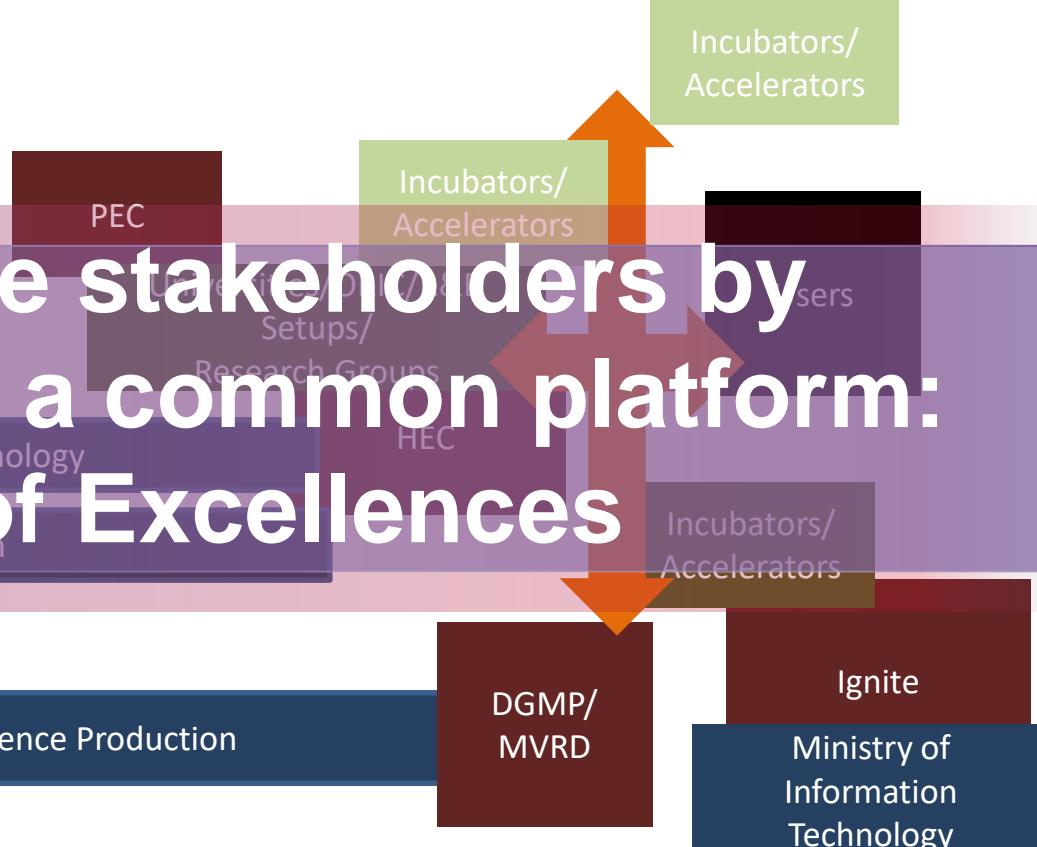
University/ PII&R  
Setups/  
Research Groups  
HEC

Incubators/  
Accelerators

DGMP/  
MVRD

Ignite

Ministry of  
Information  
Technology





# Case Study: Local Problem with Global Scope

CMMI Level II

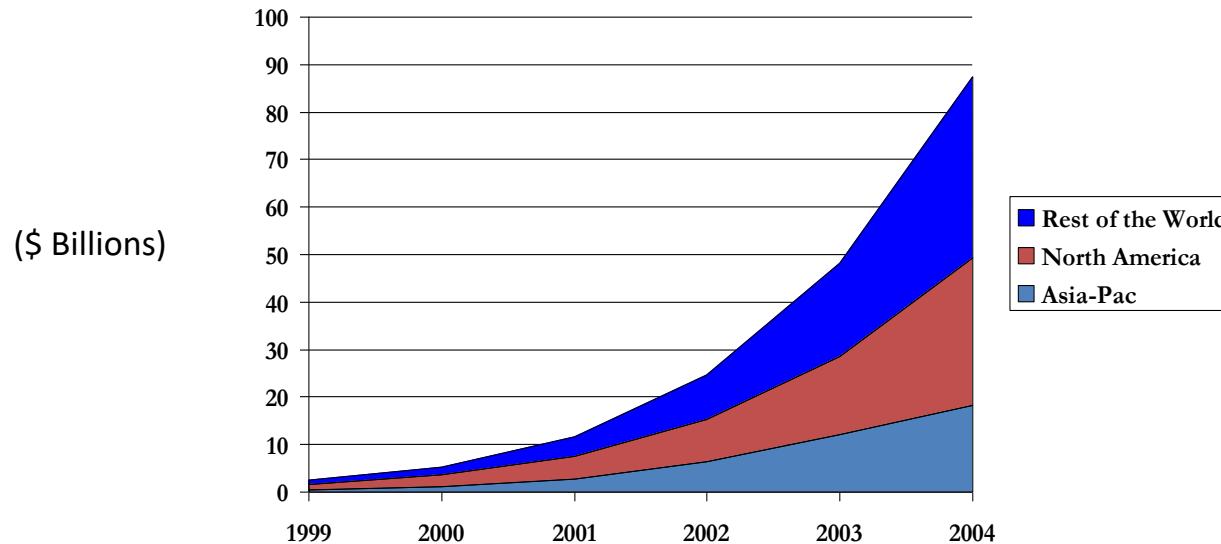
ISO 9001-2000

ISO-27001 (in progress)

Information Security Management System

# Product Development

World Wide VoIP Market View in 1999



# World Highest Density Media Processor Chip

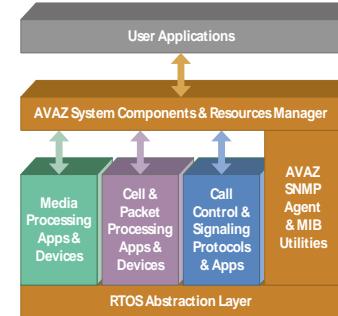
## Enabling Technologies / Avaz Networks Inc

### (\$17 million in venture funding in 1999-2002)



2016 VoIP channels SoC  
TDM and IP interfaces

World Highest Density  
Media Processing Chip  
developed in Pakistan in 2000



# Avaz Team

- Established 1997 in Irvine California
- Pakistan office initiated in Sep 1997 in Rawalpindi
- Largest team of Highly Skilled Engineers in Private Sector in Pakistan

## Corporate Headquarter:

Avaz Networks,  
7545 Irvine Center Drive,  
Suite 100 Irvine,  
California  
USA

## Research and Development Office:

Communications Enabling Technologies,  
Software Tech. Park  
5-A Constitution Ave. Islamabad  
Pakistan

(SIP)

ISLAMABAD

Failing one of the most exciting startups in Pakistan,  
when everything was right in the start



CARE has developed many best in class solutions in the areas of telecommunications, information security, networks centric systems, enterprise software for local users



10 Asia Pacific ICT Alliance (APICTA) Awards and 12 P@SHA Awards in last four years



# Software Defined Radios

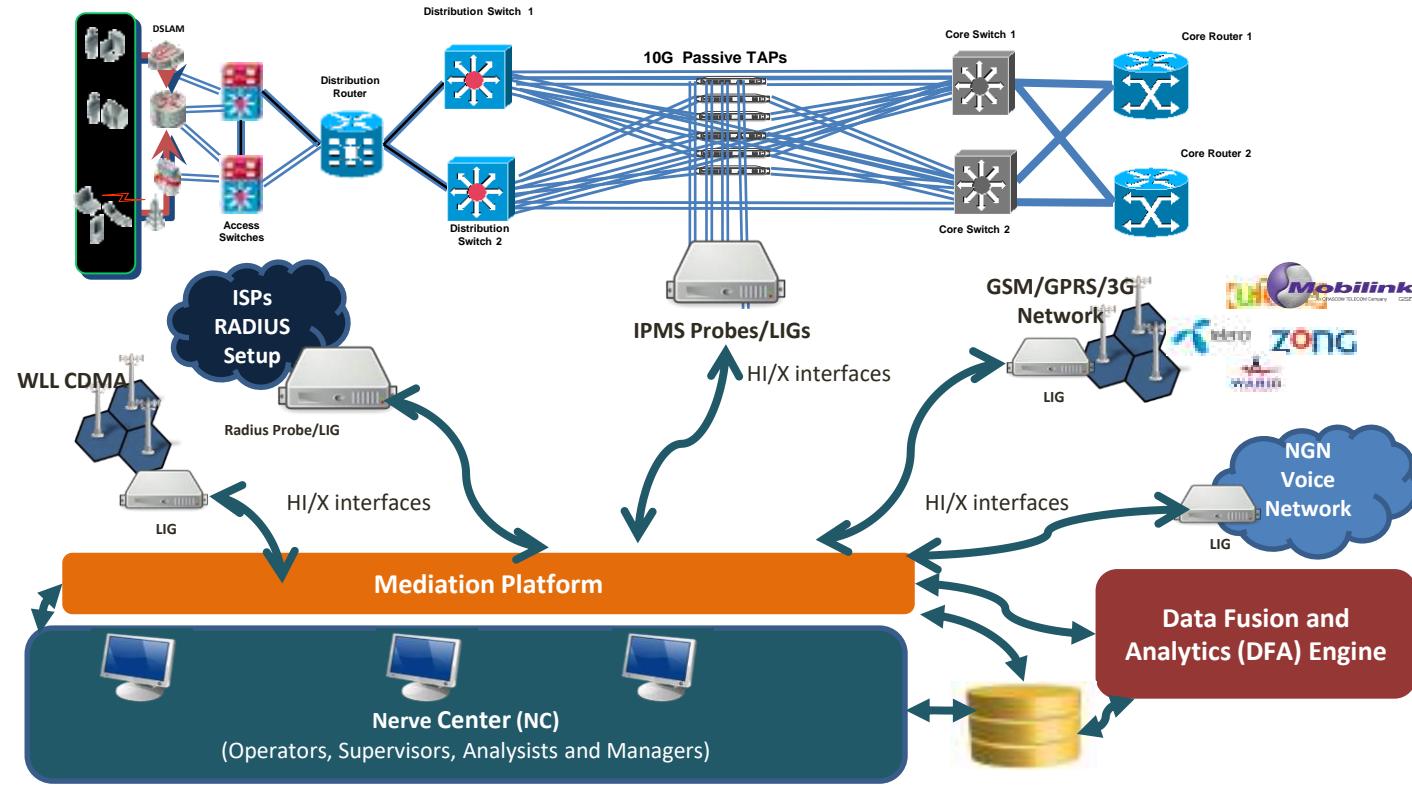


# Software Defined Radio

# Air Space Management System

# National IP & Telecommunication Networks

Multi Giga bit real time network analysis



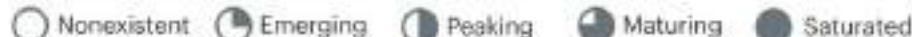


# ERP & MES

# Transitioning PAC Kamra to i4.0



Digital segment		Maturity	Description	Examples
Soft	ICT services		The most mature ICT segment with huge IT outsourcing market.	
Internet Services	e-commerce and delivery		The biggest online business, high fragmentation, cash on delivery is 95%.	Kayme, Daraz.pk
	e-transportation		E-parking, rickshaw ordering, e-taxi, and other services for private transport.	SheeshBawari, Rixi
	e-health		Early-stage companies, distribution of healthcare services via mobile in focus.	DocHers, Healthware
	e-learning		Early-stage companies focusing on primary and secondary education.	Intensive Solutions
	e-finance		Low penetration of banking accounts, high potential of mobile financial services.	Jazz Cash, Easypaisa
	e-travel		Low level of development.	Chutti.pk
	Classifiers		Very popular segment in several industries (property, cars, education, jobs).	Eduative, Zameen.com
	Communication and social platforms		Popular international platforms and several local platforms.	Facebook, WhatsApp, Viber
Transaction platforms	Content (video, music, games)		Fast-developing segment with focus on global markets.	Wonderful, Soundcloud
	Payment platforms		High need but several legal barriers, PayPal not present.	Easypay
	Advertising and big data		Emerging segment with a few local companies.	Interacta
Internet of Things	Marketplaces (many to many)		Very popular segment in all industries (education, jobs, cars, commerce).	Rozee.pk, OLX
	Smart home			E4 Technologies
	Other smart things		Emerging segment, technical capabilities (robotics programs, mechanical engineering in universities).	Cricles



Note: ICT is information and communication technology.

Sources: market experts interviews; A.T. Kearney analysis

## A self-sustaining entrepreneurial ecosystem can take countries up to a decade to build

### Evolution of a start-up

5-10 years					
Seed	Hype	Independence	Integration	Expansion	Contraction
First few start-ups emerge in a concentrated area, usually e-commerce	First success stories appear (initial public offerings and huge exits); talent and investors migrate	The ecosystem becomes self-sustaining; major elements are developed	Local and global consolidation occurs for talent and capital; M&A deals occur in digital areas	Global integration occurs, and growth continues	Brain drain begins with no renewal
<ul style="list-style-type: none"><li>• Kenya</li><li>• Algeria</li><li>• Bangladesh</li><li>• Thailand</li><li>• Philippines</li></ul>	<ul style="list-style-type: none"><li>• Ukraine</li><li>• Poland</li><li>• Lebanon</li></ul>	<ul style="list-style-type: none"><li>• Russia</li><li>• Italy</li><li>• India</li><li>• Indonesia</li><li>• Malaysia</li></ul>	<ul style="list-style-type: none"><li>• Brazil</li><li>• China</li><li>• India</li><li>• Australia</li><li>• Spain</li></ul>	<ul style="list-style-type: none"><li>• Germany</li><li>• United Kingdom</li><li>• France</li><li>• Singapore</li></ul>	<ul style="list-style-type: none"><li>• California</li><li>• Israel</li></ul>

Pakistan  
2016

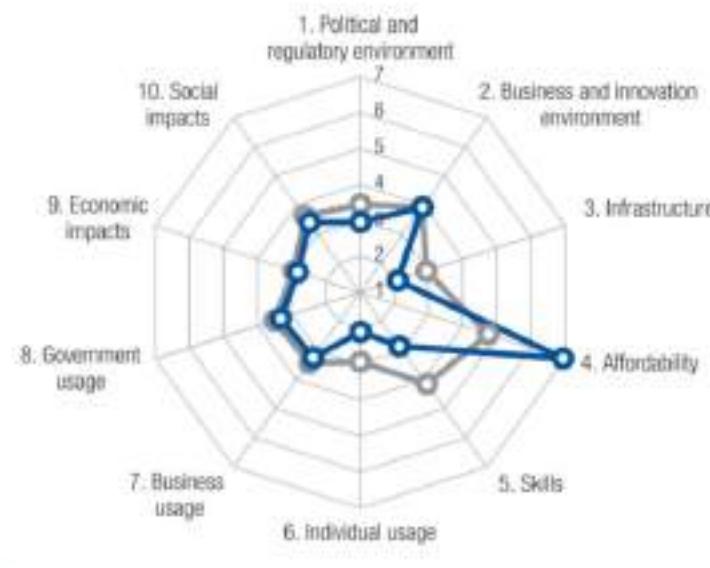
Pakistan  
2020

# Index of Countries/Economies

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# Pakistan

	Rank (out of 139)	Value (1–7)
<b>Networked Readiness Index.....</b>	<b>110</b>	<b>3.4</b>
Networked Readiness Index 2015 (out of 143).....	112	3.3
Networked Readiness Index 2014 (out of 146).....	111	3.3
Networked Readiness Index 2013 (out of 144).....	105	3.3
<b>A. Environment subindex.....</b>	<b>115</b>	<b>3.4</b>
1st pillar: Political and regulatory environment.....	128	3.0
2nd pillar: Business and innovation environment.....	98	3.9
<b>B. Readiness subindex.....</b>	<b>104</b>	<b>4.0</b>
3rd pillar: Infrastructure.....	126	2.1
4th pillar: Affordability.....	1	6.9
5th pillar: Skills.....	127	2.8
<b>C. Usage subindex.....</b>	<b>118</b>	<b>2.9</b>
6th pillar: Individual usage.....	123	2.1
7th pillar: Business usage.....	110	3.2
8th pillar: Government usage.....	103	3.3
<b>D. Impact subindex.....</b>	<b>105</b>	<b>3.1</b>
9th pillar: Economic impacts.....	105	2.8
10th pillar: Social impacts.....	106	3.4



—●— Pakistan

—○— Lower-middle-income group average

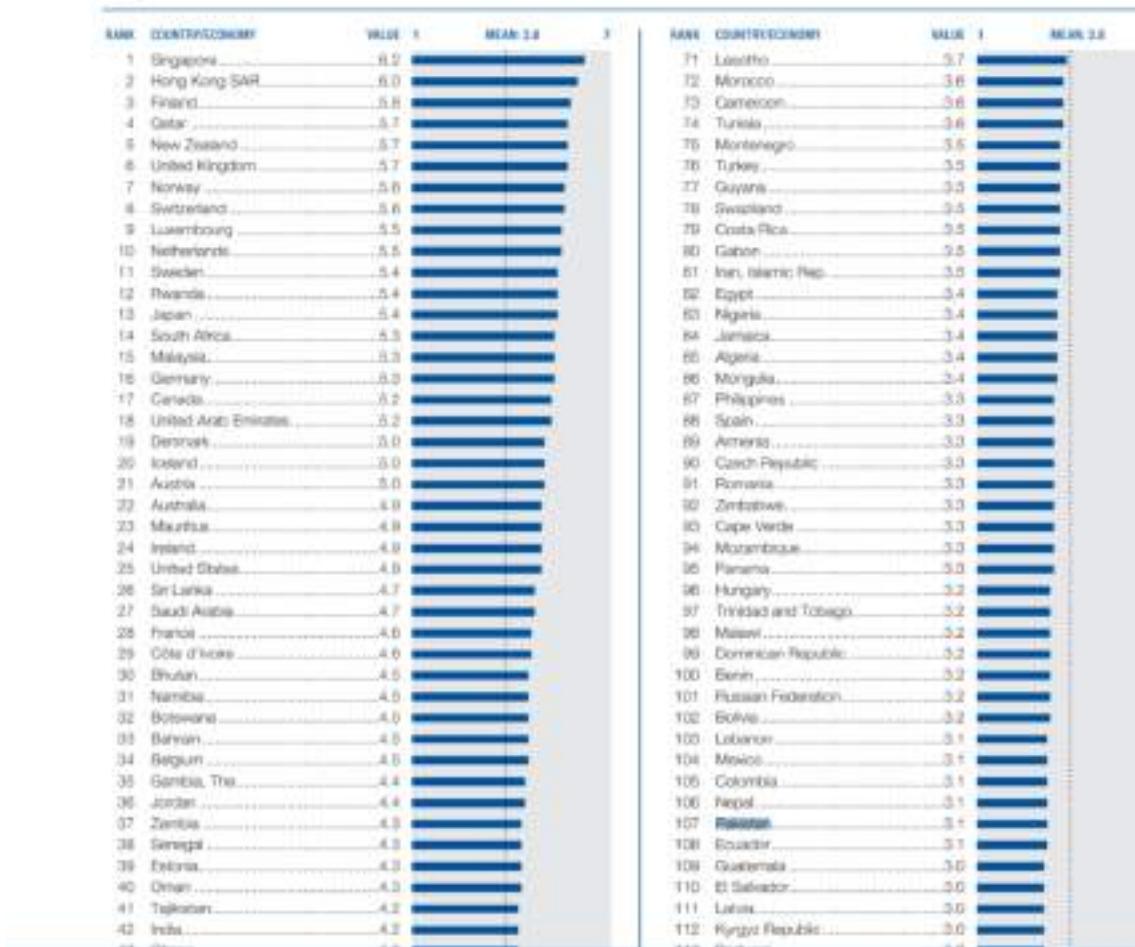
## 1.01 Effectiveness of law-making bodies

How effective is the legislative process in your country? (1 = not effective at all—it is deadlocked; 7 = extremely effective) | 2014–15 weighted average



## 1.04 Efficiency of legal framework in settling disputes

In your country, how efficient are the legal and judicial systems for companies in settling disputes? [1 = extremely inefficient; 7 = extremely efficient] | 2014–15 vs average



## 1.05 Efficiency of legal framework in challenging regulations

In your country, to what extent can individuals, institutions (and society), and businesses obtain justice through the judicial system against arbitrary government decisions? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

RANK	COUNTRY/ECONOMY	VALUE	MEAN: 3.6	7	RANK	COUNTRY/ECONOMY	VALUE	MEAN: 3.6	7
1	Finland	5.8			71	Portugal	3.4		
2	Croatia	5.7			72	Tanzania	3.4		
3	Switzerland	5.6			73	Cameroon	3.4		
4	Hong Kong SAR	5.6			74	Korea, Rep.	3.4		
5	New Zealand	5.5			75	Seychelles	3.4		
6	Netherlands	5.5			76	Czech Republic	3.4		
7	Norway	5.4			77	Malawi	3.4		
8	Luxembourg	5.4			78	Cape Verde	3.4		
9	United Kingdom	5.3			79	Vietnam	3.4		
10	Singapore	5.2			80	Philippines	3.3		
11	Germany	5.2			81	Latvia	3.3		
12	Sweden	5.1			82	Guatemala	3.3		
13	Iceland	5.1			83	Romania	3.3		
14	Canada	5.0			84	Montenegro	3.3		
15	Malaysia	5.0			85	Algeria	3.3		
16	Ireland	5.0			86	Greece	3.3		
17	South Africa	5.0			87	Panama	3.2		
18	Rwanda	5.0			88	Macedonia, PFM	3.2		
19	United States	4.8			89	Benin	3.2		
20	Austria	4.7			90	Turkey	3.2		
21	United Arab Emirates	4.7			91	Nigeria	3.2		
22	Belgium	4.7			92	Swaziland	3.1		
23	Australia	4.7			93	Lithuania	3.1		
24	Japan	4.6			94	Trinidad and Tobago	3.1		
25	Estonia	4.5			95	Nepal	3.1		
26	Saudi Arabia	4.4			96	Ethiopia	3.1		
27	France	4.4			97	Poland	3.1		
28	Bahrain	4.4			98	Mongolia	3.0		
29	Namibia	4.4			99	Kyrgyz Republic	3.0		
30	Jordan	4.3			100	Colombia	3.0		
31	Mauritius	4.3			101	Pakistan	3.0		
32	Costa Rica	4.3			102	Mexico	3.0		
33	Botswana	4.2			103	El Salvador	3.0		
34	Istria	4.2			104	Gabon	3.0		

## 1.06 Intellectual property protection

In your country, to what extent is intellectual property protected? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

RANK	COUNTRY/TERITORY	VALUE	1	MEAN ± 1	7	RANK	COUNTRY/TERITORY	VALUE	1	MEAN ± 1	7
1	Finland	6.3				71	Philippines	3.9			
2	Luxembourg	6.3				72	Romania	3.9			
3	Switzerland	6.2				73	Liberia	3.9			
4	Singapore	6.2				74	Ghana	3.8			
5	New Zealand	6.1				75	Seychelles	3.8			
6	Japan	6.1				76	Macao	3.8			
7	United Kingdom	6.0				77	Ecuador	3.8			
8	Netherlands	6.0				78	Burkina Faso	3.8			
9	Hong Kong SAR	6.0				79	Colombia	3.7			
10	Ireland	5.8				80	Hungary	3.7			
11	Qatar	5.8				81	Kenya	3.7			
12	Canada	5.8				82	Turkey	3.7			
13	Australia	5.8				83	Brazil	3.7			
14	France	5.8				84	Kuwait	3.7			
15	United States	5.8				85	Montenegro	3.7			
16	Sweden	5.8				86	Dominican Republic	3.6			
17	Norway	5.8				87	Croatia	3.6			
18	Belgium	5.7				88	Vietnam	3.6			
19	Austria	5.7				89	Mali	3.6			
20	Germany	5.7				90	Tunisia	3.5			
21	Denmark	5.6				91	Guatemala	3.5			
22	United Arab Emirates	5.5				92	Azerbaijan	3.5			
23	Malaysia	5.4				93	Amman	3.5			
24	South Africa	5.4				94	Gabon	3.5			
25	Iceland	5.3				95	Switzerland	3.5			
26	Estonia	5.2				96	Zimbabwe	3.4			
27	Taiwan, China	5.2				97	Cape Verde	3.4			
28	Rwanda	5.1				98	El Salvador	3.4			
29	Iraq	5.0				99	Trinidad and Tobago	3.4			
30	Saudi Arabia	5.0				100	Lao PDR	3.4			
31	Bahrain	4.8				101	Georgia	3.3			
32	Portugal	4.7				102	Uganda	3.3			
33	Malta	4.6				103	Ethiopia	3.3			
34	Czech Republic	4.6				104	Peru	3.3			
35	Jordan	4.6				105	Algeria	3.3			
36	Namibia	4.6				106	Guyana	3.3			
37	Paraguay	4.5				107	Bolivia	3.2			
38	Uruguay	4.5				108	Egypt	3.2			
39	Chile	4.5				109	Mongolia	3.2			
40	Ornán	4.4				110	Altaiia	3.2			
41	Mauritius	4.4				111	Tanzania	3.2			
42	Sri Lanka	4.4				112	Bolivia	3.2			

## 1.07 Software piracy rate

Unlicensed software units as a percentage of total software units installed | 2013



#### 1.08 Number of procedures to enforce a contract

<sup>1</sup> Because all generations in society are affected by economic conditions, the movement from poverty to prosperity does not necessarily mean a general improvement in living standards. J. STIGLITZ



## 1.09 Time required to enforce a contract

Number of days to receive a deposit, counted from the moment the plaintiff decides to file the lawsuit to court and payment. / 30/2019

NAME	COUNTRY/REGION	MEAN
1	Bhutan	150
2	Madagascar	219
3	Malta	225
4	Azerbaijan	230
5	Peru	231
6	Angola	237
7	Morocco	240
8	Singapore	240
9	Lithuania	240
10	Russian Federation	240
11	Sierra Leone	241
12	Latvia	243
13	Armenia	247
14	Hong Kong SAR	250
15	Japan	254
16	Kazakhstan	271
17	Maldives	271
18	Angola	274
19	Yemen	275
20	Ukraine	278
21	Montenegro	289
22	Indonesia	291
23	Australia	296
24	France	299
25	Malta	300
26	Armenia	314
27	Yemen	317
28	Qatar, the	327
29	Swaziland	329
30	Kyrgyz Republic	329
31	Zimbabwe	329
32	Wanted	347
33	Irish Islands	353
34	Luxembourg	420
35	Uruguay	425
36	Maldives	429
37	Papua	429
38	Germany	429
39	Nigerian	431
40	Malta	430
41	United Kingdom	437
42	Thailand	438
43	Lesotho	443
44	China	443
45	Continental Republic	452
46	Barbados	464
47	Peru	470
48	Latvia	469
49	Indonesia	471
50	Costa Rica	480
51	Argentina	483
52	Uganda	486
53	Union Afr.-Française	489
54	Belarus	509
55	Kenya, Rep.	509
56	Albania	509
57	Nigeria	513
58	Taiwan, China	514
59	Monaco	517
60	Qatar	517
61	Romania	518
62	Montenegro	519
63	Portugal	547
64	Algeria	581
65	Greece	590
66	Russia	594
67	Armenia	594
68	Cap Verde	594
69	Côte d'Ivoire	595
70	Costa Rica	595
71	Uzbekistan	595
72	South Africa	595
73	Turkey	595
74	Uganda	597
75	Maldives	598
76	Ecuador	598
77	Argentina	598
78	Burma	599
79	Philippines	599
80	Bolivia, Plurinational	599
81	China	599
82	South Africa	600
83	Macau, P.R.China	604
84	Montenegro	605
85	Cambodia	611
86	Zambia	611
87	Lesotho	613
88	Malta	615
89	Brunei	615
90	Switzerland	616
91	Algeria	616
92	Barbados	617
93	Suriname	618
94	Malta	619
95	Indonesia	620
96	Iran	621
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100	Philippines	622
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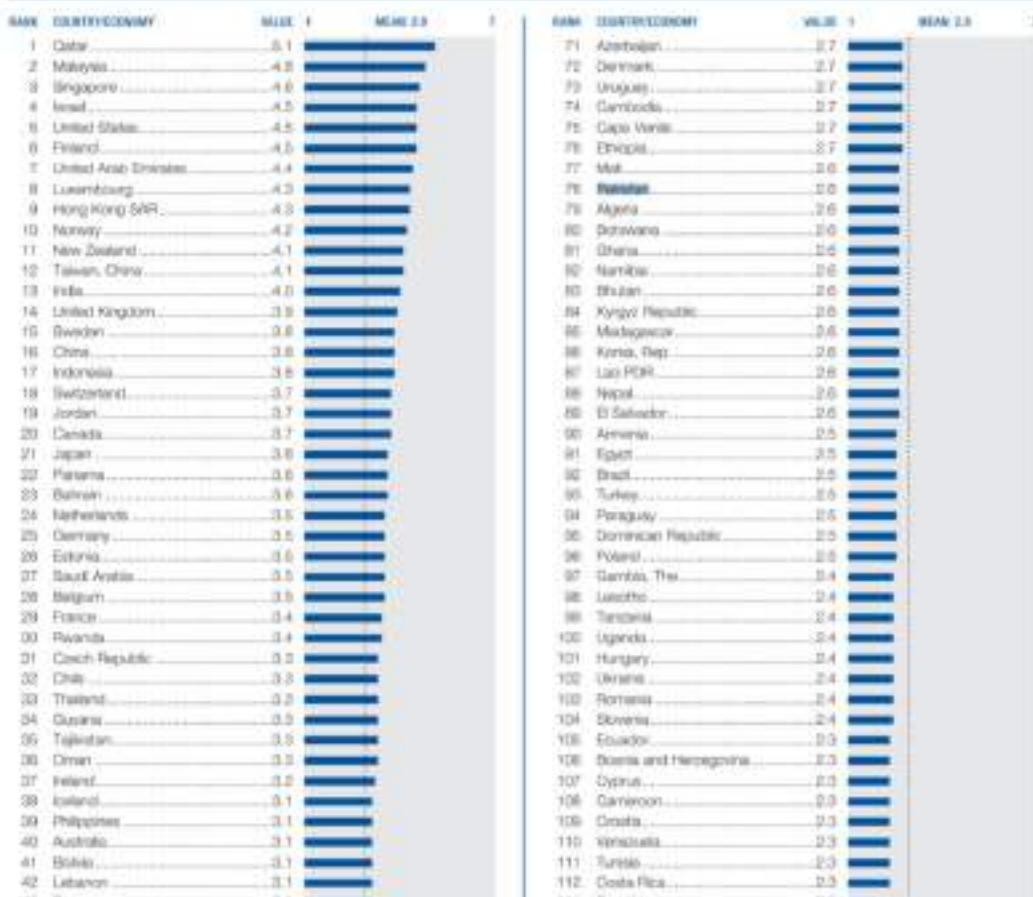
## 2.01 Availability of latest technologies

In your country, to what extent are the listed technologies available? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

RANK	COUNTRY/ECONOMY	VALUE	1	MEAN 4.0	7		RANK	COUNTRY/ECONOMY	VALUE	1	MEAN 4.0	7
1	Finland	6.6					71	Romania	4.6			
2	United States	6.5					72	Potugal	4.6			
3	Norway	6.5					73	Bulgaria	4.6			
4	Sweden	6.5					74	Montenegro	4.6			
5	United Kingdom	6.5					75	Cape Verde	4.6			
6	Iceland	6.4					76	Zambia	4.6			
7	Switzerland	6.4					77	Senegal	4.6			
8	Israel	6.4					78	Philippines	4.6			
9	United Arab Emirates	6.3					79	Haitian	4.6			
10	Netherlands	6.3					80	Ecuador	4.6			
11	Canada	6.2					81	Greece, The	4.6			
12	Germany	6.2					82	Colombia	4.5			
13	Singapore	6.2					83	Tunisia	4.5			
14	Luxembourg	6.2					84	Palestine	4.5			
15	Belgium	6.2					85	Costa Rica	4.5			
16	Japan	6.2					86	Guinea	4.5			
17	Ireland	6.1					87	America, Central	4.4			
18	Portugal	6.1					88	Mongolia	4.4			
19	Austria	6.1					89	Kazakhstan	4.4			
20	Qatar	6.1					90	Lebanon	4.4			
21	France	6.0					91	Montenegro	4.4			
22	Hong Kong SAR	6.0					92	Moldova	4.4			
23	Denmark	6.0					93	El Salvador	4.3			
24	Australia	6.0					94	Tajikistan	4.3			
25	New Zealand	6.0					95	China	4.3			
26	Estonia	5.8					96	Ukraine	4.3			
27	Latvia	5.8					97	Georgia	4.3			
28	Lithuania	5.8					98	Bolivia	4.2			
29	Bahrain	5.7					99	Nigeria	4.2			
30	Malaysia	5.7					100	Russian Federation	4.2			
31	Korea, Rep.	5.6					101	Cambodia	4.2			
32	Czech Republic	5.6					102	Uganda	4.2			
33	Chile	5.6					103	Bosnia and Herzegovina	4.2			
34	Spain	5.5					104	Zimbabwe	4.1			
35	Portugal	5.5					105	Bhutan	4.1			
36	Taiwan, China	5.5					106	Bangladesh	4.0			
37	Slovak Republic	5.5					107	Sri Lanka	4.0			
38	Slovenia	5.5					108	India	4.0			
39	Saudi Arabia	5.4					109	Paraguay	4.0			
40	Malta	5.4					110	Nicaragua	4.0			
41	South Africa	5.3					111	Iran, Islamic Rep.	4.0			
42	Guatemala	5.3					112	Vietnam	4.0			
43	Ukraine	5.2					113	Mali	4.0			
44	Cyprus	5.2					114	Madagascar	4.0			
45	Rwanda	5.0					115	Algeria	3.9			
46	Hungary	5.1					116	Clayton	3.0			
47	Jordan	5.1					117	Lao PDR	3.9			

## 2.02 Venture capital availability

In your country, how easy is it for start-up entrepreneurs with innovative but risky projects to obtain equity funding? (1 = extremely difficult; 7 = extremely easy) | 2014-15 weighted average



## 2.03 Total tax rate

Sum of profit tax, labor tax and social contributions, property taxes, turnover taxes, and other taxes, as a share (%) of commercial profits. 1/2014

RANK	COUNTRY/ENTITY	PERCENTAGE
1	Qatar	11.3
2	Macedonia, FYR	12.9
3	Kuwait	13.0
4	Bahrain	13.5
5	Luxembourg	13.8
6	Saudi Arabia	13.9
7	United Arab Emirates	15.0
8	Greece	16.4
9	Singapore	16.4
10	Zambia	18.6
11	America	19.9
12	Croatia	20.0
13	Luxembourg	20.1
14	Guinea-Bissau	21.0
15	Danish	21.1
16	Namibia	21.3
17	Montenegro	21.6
18	Mauritius	22.1
19	Hong Kong SAR	22.5
20	Oman	22.9
21	Burma and megayone	23.3
22	Cyprus	24.4
23	Mongolia	24.4
24	Denmark	24.5
25	Bolivia	26.1
26	Lesotho	26.9
27	Iceland	28.9
28	Djibouti	27.0
29	Thailand	27.5
30	South Africa	28.8
31	Switzerland	28.8
32	China	29.0
33	Kyrgyz Republic	29.0
34	Kazakhstan	29.2
35	Jordan	29.3
36	Nepal	29.5
37	Iceland	29.6
38	Indonesia	29.7
39	Seychelles	30.1
40	Liberia	30.3
41	Iraq	30.6
42	Slovenia	31.0
43	Mauritania	31.4
44	Bangladesh	31.6
45	United Kingdom	32.0
46	Eritrea	32.1
47	Turks and Caicos	32.2
48	Guinea	32.3
49	Barbados	32.6
50	Grants	32.7
51	Zimbabwe	32.8
52	Guatemala	37.5
53	Principal	37.9
54	Madagascar	38.1
55	El Salvador	38.1
56	Vietnam	39.4
57	Barbary	39.8
58	Armenian	39.8
59	Malaysia	40.0
60	Moldova	40.2
61	Burundi	40.2
62	Hell	40.3
63	Poland	40.3
64	Turke	40.9
65	Netherlands	41.0
66	Portugal	41.0
67	Malta	41.2
68	Uruguay	41.8
69	Romania	42.0
70	Croatian Republic	42.4
71	Lithuania	42.6
72	Philippines	42.9
73	Tanzania	43.0
74	United States	43.9
75	Iran, Islamic Rep.	44.1
76	Honduras	44.2
77	Egypt	45.0
78	Colomb	45.7
79	Russian Federation	47.0
80	Senegal	47.3
81	Australia	47.6
82	Liberia	47.8
83	Mal	48.3
84	Hungary	48.4
85	Cameroon	48.5
86	Germany	48.6
87	Morocco	49.1
88	Sweden	49.1
89	Estonia	49.2
90	Croatia	49.6
91	Spain	50.0
92	Czech Republic	50.4
93	Greek Republic	51.2
94	Japan	51.2
95	Austria	51.7
96	Mexico	51.7
97	Côte d'Ivoire	51.8
98	Ukraine	52.2
99	Brunei	55.2
100	Cook Roya	56.0
101	Bolivia	56.4

## 2.04 Time required to start a business

Number of days required to start a business | 2015

RANK	COUNTRY/ECONOMY	VALUE
1	New Zealand	1
2	Macedonia, FYR	1
3	Canada	2
3	Hong Kong SAR	2
5	Georgia	3
6	Australia	3
6	Portugal	3
6	Singapore	3
9	Armenia	3
9	Azerbaijan	3
9	Denmark	3
9	Jamaica	3
13	Estonia	4
13	Lithuania	4
15	Belgium	4
15	Burundi	4
15	France	4
15	Iceland	4
15	Korea, Rep.	4
15	Malaysia	4
15	Moldova	4
15	Netherlands	4
15	Norway	4
24	Liberia	5
24	United Kingdom	5
26	Hungary	5
26	Kazakhstan	5
28	Albania	6
28	Chile	6
28	Italy	6
28	Lithuania	6
28	Rwanda	6

RANK	COUNTRY/ECONOMY	VALUE
70	Trinidad and Tobago	12
72	Benin	12
72	Croatia	12
72	Jordan	12
72	Serbia	12
76	Greece	13
76	Israel	13
76	Madagascar	13
76	Myanmar	13
76	Nicaragua	13
81	Finland	14
81	Ghana	14
81	Honduras	14
81	Spain	14
85	Dominican Republic	15
86	Bhutan	15
86	Cameroon	15
86	Czech Republic	15
86	Iran, Islamic Rep.	15
86	Lebanon	15
91	El Salvador	17
92	Nepal	17
93	Bulgaria	18
93	Guyana	18
95	Guatemala	19
95	Luxembourg	19
97	Ethiopia	19
97	Mozambique	19
97	Pakistan	19
97	Saudi Arabia	19
101	Bangladesh	20
102	Algeria	20

## 2.06 Intensity of local competition

In your country, how intense is competition in the local markets? [1 = not intense at all; 7 = extremely intense] | 2014–15 weighted average



## 2.07 Tertiary education enrollment rate

Tertiary education gross enrollment rate (%) | 2013 or most recent

NAME	COUNTRY/ECONOMY	VALUE
1. Greece		110.2
2. Korea, Rep. <sup>11</sup>		95.3
3. France		91.1
4. United States		89.8
5. Spain		87.1
6. Australia		86.8
7. Slovenia		85.2
8. Taiwan, China		83.9
9. Chile		83.8
10. Singapore		82.7
11. Ukraine <sup>11</sup>		82.3
12. Ireland <sup>11</sup>		82.2
13. Denmark		81.2
14. Austria <sup>11</sup>		80.0
15. Argentina		80.0
16. New Zealand		79.7
17. Turkey		79.0
18. Netherlands <sup>11</sup>		78.8
19. Russian Federation		78.0
20. Venezuela <sup>11</sup>		77.0
21. Norway		76.1
22. Ireland		75.2
23. Estonia		72.9
24. Belgium		72.3
25. Ukraine		72.0
26. Poland		71.2
27. Bulgaria <sup>11</sup>		70.9
28. Hong Kong SAR <sup>11</sup>		68.8
29. Latvia		67.0
30. Israel		66.3
31. Portugal		66.2
32. Iran, Islamic Rep. <sup>11</sup>		64.8
33. Czech Republic		65.4
34. Mongolia <sup>11</sup>		64.3
35. Italy		63.8
36. Germany		63.4
37. Uruguay <sup>11</sup>		63.1
38. Albania <sup>11</sup>		62.7
39. Japan		62.4
40. France		62.1
41. Croatia <sup>11</sup>		61.7
42. Saudi Arabia <sup>11</sup>		61.1
43. Germany		61.1
44. Samoa <sup>11</sup>		59.1
45. Hungary		57.0
46. United Kingdom		56.9

NAME	COUNTRY/ECONOMY	VALUE
71. Malawi <sup>11</sup>		36.4
72. Belarus <sup>11</sup>		36.3
73. Philippines <sup>11</sup>		35.6
74. Paraguay <sup>11</sup>		35.1
75. Algeria <sup>11</sup>		34.6
76. Turkey <sup>11</sup>		34.6
77. Indonesia		31.2
78. Vietnam <sup>11</sup>		30.5
79. Egypt		30.3
80. China		30.2
81. Mexico		29.2
82. El Salvador		29.2
83. Oman <sup>11</sup>		28.6
84. Botswana <sup>11</sup>		27.5
85. Jamaica		27.4
86. Kuwait		27.0
87. Tajikistan <sup>11</sup>		26.4
88. Morocco <sup>11</sup>		24.6
89. Iraq		23.8
90. Azerbaijan <sup>11</sup>		23.2
91. Cape Verde <sup>11</sup>		23.0
92. Bosnia and Herzegovina <sup>11</sup>		22.1
93. United Arab Emirates <sup>11</sup>		22.0
94. Honduras <sup>11</sup>		21.2
95. Sri Lanka <sup>11</sup>		20.7
96. South Africa		19.7
97. Luxembourg <sup>11</sup>		19.4
98. Guatemala		18.3
99. Lesotho <sup>11</sup>		17.3
100. Nicaragua <sup>11</sup>		17.2
101. Cambodia		15.9
102. Nepal <sup>11</sup>		15.6
103. Qatar <sup>11</sup>		15.6
104. Ghana <sup>11</sup>		15.6
105. Bahrain		15.4
106. Myanmar <sup>11</sup>		15.3
107. Bangladesh <sup>11</sup>		15.4
108. Guinea <sup>11</sup>		12.5
109. Trinidad and Tobago <sup>11</sup>		12.0
110. Georgia <sup>11</sup>		11.9
111. Liberia <sup>11</sup>		11.8
112. Bhutan		10.9
113. Guinea <sup>11</sup>		10.8
114. Nigeria <sup>11</sup>		10.4
115. Maldives <sup>11</sup>		10.4
116. Lesotho <sup>11</sup>		3.8

## 2.08 Quality of management schools

OECD countries' share of the gross domestic product of business + services (GDP-B) = 2010 market value - average real GDP per capita (PPP) in 2010 (US\$) / 2010 market value of business + services (US\$) / 2010 market value of business + services (US\$) / 2010 market value of business + services (US\$)



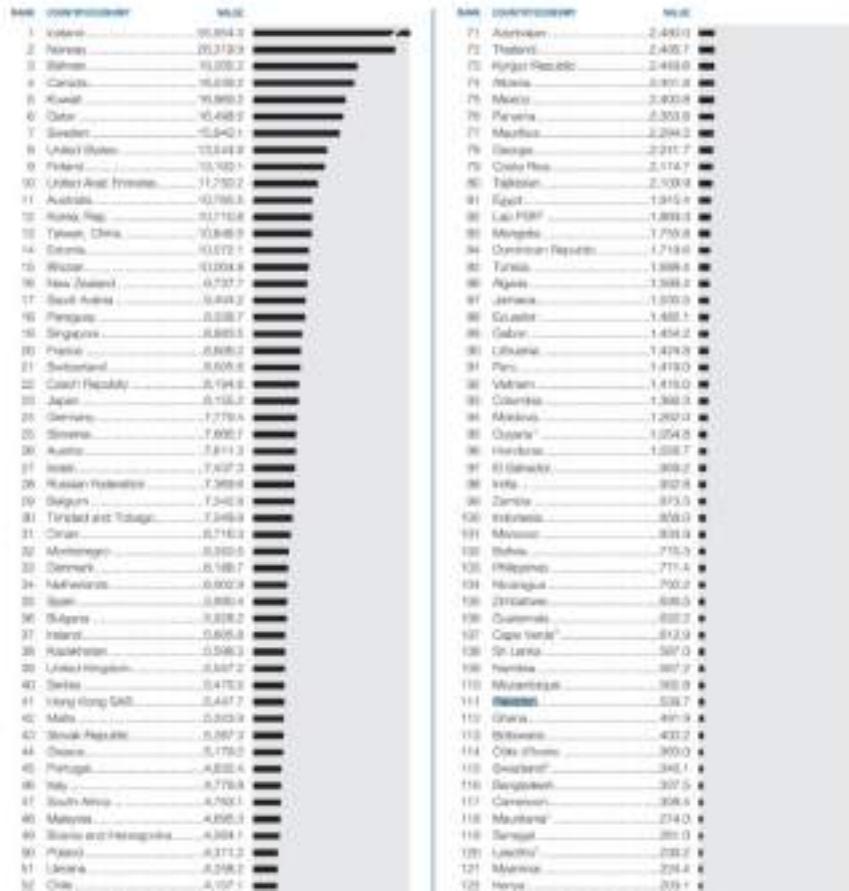
## 2.09 Government procurement of advanced technology products

In your country, to what extent do government purchasing decisions favor innovation? (1 = not at all; 7 = a great extent) / 2014–15 weighted average

RANK	COUNTRY/DEPARTMENT	MEASURE	WEIGHTED AVERAGE	TYPE
1	Greece	1	3.0	1
2	United Arab Emirates	1	3.4	1
3	Morocco	1	3.3	1
4	Yemen	1	3.3	1
5	Liberia	1	3.2	1
6	Rwanda	1	3.2	1
7	Saint Lucia	1	3.2	1
8	Iraq	1	3.2	1
9	Chris	1	3.2	1
10	Georgia	1	3.2	1
11	United States	1	3.2	1
12	Kuwait	1	3.2	1
13	Indonesia	1	3.2	1
14	Japan	1	3.2	1
15	Bahrain	1	3.1	1
16	Norway	1	3.1	1
17	Switzerland	1	3.1	1
18	Peru	1	3.1	1
19	Hanover	1	3.1	1
20	Estonia	1	3.1	1
21	Netherlands	1	3.1	1
22	Macedonia, FYR	1	3.0	1
23	Sweden	1	3.0	1
24	Korea, Rep.	1	3.0	1
25	Denmark	1	3.0	1
26	India	1	3.0	1
27	Taiwan	1	3.0	1
28	Belarus	1	3.0	1
29	Taiwan, China	1	3.0	1
30	Spain, Govt.	1	3.0	1
31	Afghanistan	1	3.0	1
32	Sri Lanka	1	3.0	1
33	Pakistan	1	3.0	1
34	United Kingdom	1	3.0	1
35	Senegal	1	3.0	1
36	Liberia	1	3.0	1
37	Kenya	1	3.0	1
38	Hong Kong SAR	1	3.0	1
39	Tunisia	1	3.0	1
40	Guatemala	1	3.0	1
41	Morocco	1	3.0	1
42	Jordan	1	3.0	1
43	Iran	1	3.0	1
44	Ivory Coast	1	3.0	1
45	Cape Verde	1	3.0	1
46	Albania	1	3.0	1
47	Honduras	1	3.0	1
48	Portugal	1	3.0	1
49	El Salvador	1	3.0	1
50	Mali	1	3.0	1
51	Malta	1	3.0	1
52	Uganda	1	3.0	1
53	Uganda	2	3.0	1
54	Greece	2	3.0	1
55	St. Maarten	2	3.0	1
56	Mozambique	2	3.0	1
57	Slovenia	2	3.0	1
58	Cameroun	2	3.0	1
59	Tanzania	2	3.0	1
60	Montenegro	2	3.0	1
61	Guinea-Bissau	2	3.0	1
62	Mongolia	2	3.0	1
63	Syria	2	3.0	1
64	Uruguay	2	3.0	1
65	Iran, Islamic Rep.	2	3.0	1
66	Czech Republic	2	3.0	1
67	Spain	2	3.0	1
68	Lao PDR	2	3.0	1
69	Uganda	2	3.0	1
70	St. Lucia	2	3.0	1
71	Mexico	2	3.0	1
72	CRB	2	3.0	1
73	Thailand	2	3.0	1
74	Poland	2	3.0	1
75	Algeria	2	3.0	1
76	Ukraine	2	3.0	1
77	Chad	2	3.0	1
78	Georgia	2	3.0	1
79	Albania	2	3.0	1
80	El Salvador	2	3.0	1
81	Ukraine	2	3.0	1
82	Switzerland	2	3.0	1
83	Lithuania	2	3.0	1
84	Algeria	2	3.0	1
85	Costa Rica	2	3.0	1
86	Hungary	2	3.0	1
87	Rwanda	2	3.0	1
88	Ukraine	2	3.0	1
89	Switzerland	2	3.0	1
90	Uganda	2	3.0	1
91	Algeria	2	3.0	1
92	Costa Rica	2	3.0	1
93	Hungary	2	3.0	1
94	Rwanda	2	3.0	1
95	Timor-Leste	2	3.0	1
96	James	2	3.0	1
97	Repub.	2	3.0	1
98	Armenia	2	3.0	1
99	Serbia	2	3.0	1
100	Malaysia	2	3.0	1
101	Iran	2	3.0	1
102	Tunisia	2	3.0	1
103	Jayy.	2	3.0	1
104	Caribbean	2	3.0	1
105	Kyrgyz Rep./KIR	2	3.0	1
106	Angola	2	3.0	1
107	Myanmar	2	3.0	1
108	South Africa	2	3.0	1
109	Slovenia	2	3.0	1
110	Malta	2	3.0	1
111	Paraguay	2	3.0	1
112	Peru	2	3.0	1
113	Montenegro	2	3.0	1

### 3.01 Electricity production

Electricity production (kWh) per capita 1.2013 or most recent



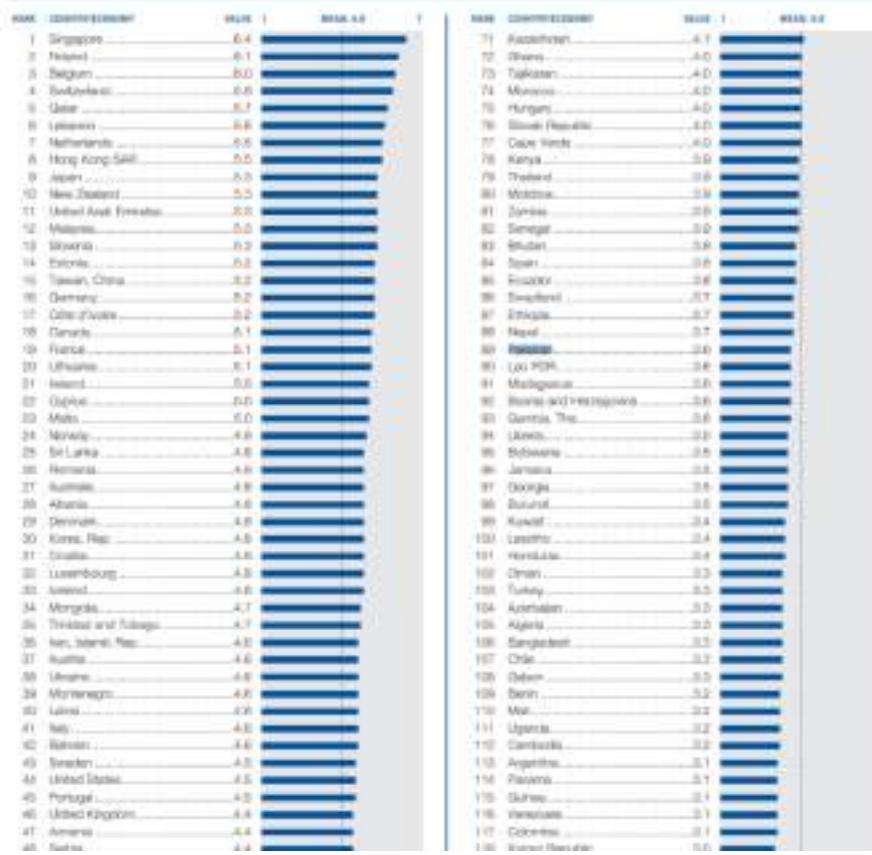
## 5.01 Quality of the education system

In your country, how well does the education system meet the needs of a competitive economy? (1 = not well at all; 7 = extremely well) | 2014–15 weighted average



## 5.02 Quality of math and science education

If your country, how do you assess the quality of math and science education? (1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world) | 2014–15 weighted average



## 5.03 Secondary education enrollment rate

Secondary education gross enrollment rate (%) | 2013 or most recent



## 7.02 Capacity for innovation

In your country, to what extent do companies have the capacity to innovate? (1 = not at all; 7 = to a great extent) | 2014–15 weighted average

RANK	COUNTRY/REGION	VALUE	MEAN	1	7
1	Switzerland	6.0	5.1		
2	United States	5.9	5.1		
3	Ireland	5.8	5.1		
4	Denmark	5.7	5.1		
5	Germany	5.6	5.1		
6	Brazil	5.6	5.1		
7	Malaysia	5.5	5.1		
8	Austria	5.4	5.1		
9	Luxembourg	5.4	5.1		
10	United Kingdom	5.4	5.1		
11	Denmark	5.3	5.1		
12	Greece	5.3	5.1		
13	Belgium	5.3	5.1		
14	Japan	5.3	5.1		
15	New Zealand	5.2	5.1		
16	Netherlands	5.2	5.1		
17	Ireland	5.2	5.1		
18	Norway	5.2	5.1		
19	Singapore	5.1	5.1		
20	France	5.1	5.1		
21	Taiwan, China	4.9	5.1		
22	Hong Kong SAR	4.9	5.1		
23	Canada	4.9	5.1		
24	Korea, Rep.	4.8	5.1		
25	Australia	4.8	5.1		
26	Czech Republic	4.8	5.1		
27	Estonia	4.7	5.1		
28	United Arab Emirates	4.7	5.1		
29	Hong Kong SAR	4.7	5.1		
30	Indonesia	4.7	5.1		
31	Lithuania	4.6	5.1		
32	South Africa	4.6	5.1		
33	Philippines	4.6	5.1		
34	Iceland	4.5	5.1		
35	Panama	4.5	5.1		
36	Sri Lanka	4.5	5.1		
37	Bolivia	4.5	5.1		
38	Demegal	4.4	5.1		
39	Honduras	4.4	5.1		
40	Costa Rica	4.4	5.1		
41	Sierra Leone	4.4	5.1		
42	Kenya	4.3	5.1		
43	Guatemala	4.3	5.1		
44	Côte d'Ivoire	4.3	5.1		
45	Liberia	4.3	5.1		
46	Cameroon	4.3	5.1		
47	Jordan	4.3	5.1		
48	Panama	4.3	5.1		
71	Namibia	3.9	5.1		
72	Poland	3.9	5.1		
73	Mali	3.9	5.1		
74	Argentina	3.9	5.1		
75	Seychelles	3.8	5.1		
76	Qatar	3.8	5.1		
77	Slovenia	3.8	5.1		
78	Madagascar	3.8	5.1		
79	Bulgaria	3.8	5.1		
80	Brazil	3.8	5.1		
81	Vietnam	3.8	5.1		
82	Nigeria	3.8	5.1		
83	Turkey	3.8	5.1		
84	Russian Federation	3.8	5.1		
85	Chile	3.8	5.1		
86	Uganda	3.8	5.1		
87	Armenia	3.8	5.1		
88	Shatay	3.8	5.1		
89	Latvia	3.7	5.1		
90	Costa Rica	3.7	5.1		
91	Macedonia, FYR	3.7	5.1		
92	Dominican Republic	3.7	5.1		
93	Colombia	3.7	5.1		
94	Lesotho	3.7	5.1		
95	Kenya	3.7	5.1		
96	Ukraine	3.7	5.1		
97	Uruguay	3.6	5.1		
98	Kirgyz Republic	3.6	5.1		
99	Gaza Strip	3.6	5.1		
100	Montenegro	3.6	5.1		
101	Kuwait	3.6	5.1		
102	Maldives	3.6	5.1		
103	Albania	3.6	5.1		
104	Iran, Islamic Rep.	3.6	5.1		
105	Peru	3.6	5.1		
106	Trinidad and Tobago	3.5	5.1		
107	Tunisia	3.5	5.1		
108	Morocco	3.5	5.1		
109	Tunisia	3.5	5.1		
110	Mauritius	3.5	5.1		
111	Greece	3.5	5.1		
112	Eritrea	3.5	5.1		
113	Cambodia	3.5	5.1		
114	Malta	3.4	5.1		
115	Madagascar	3.4	5.1		
116	Gatun	3.4	5.1		
117	Bangladesh	3.4	5.1		
118	Puerto Rico	3.4	5.1		

## 7.03 PCT patents applications

Number of applications filed under the Patent Cooperation Treaty (PCT) per million population | 2012–13 average

RANK	COUNTRY/ENTITY	PER 1M	RANK	COUNTRY/ENTITY	PER 1M
1	Japan	268.2	71	St Lucia	2.8
2	Sweden	265.1	72	Jordan	2.8
3	Belarus	262.4	73	Mongolia	2.7
4	Finland	260.5	74	Egypt	2.7
5	Ireland	242.5	75	Tunisia	2.7
6	Korea, Rep.	231.7	76	Maldives	2.7
7	Germany	217.8	77	Jamaica	2.6
8	Denmark	209.3	78	Papua	2.5
9	Netherlands	207.2	79	Azerbaijan	2.5
10	United States	153.1	80	Gambia, The	2.4
11	Austria	169.0	81	Treasury and Tobago	2.4
12	Norway	128.4	82	Orion	2.4
13	Singapore	128.4	83	Philippines	2.3
14	France	117.2	84	Kuwait	2.3
15	Luxembourg	113.0	85	Dominican Republic	2.3
16	Bulgaria	107.0	86	Venezuela	2.2
17	Slovenia	100.6	87	Albania	2.2
18	United Kingdom	93.9	88	Ecuador	2.2
19	Canada	89.3	89	Angola	2.2
20	Ireland	82.1	90	Kenya	2.2
21	New Zealand	78.5	91	Namibia	2.1
22	Australia	78.4	92	Vietnam	2.1
23	Steiermark	68.7	93	Switzerland	2.1
24	Italy	55.4	94	El Salvador	2.1
25	Spain	57.4	95	Lao PDR	2.1
26	Hungary	23.5	96	Bosnia	2.1
27	Gibraltar	21.6	97	Kyrgyz Republic	2.1
28	Czech Republic	21.4	98	Indonesia	2.1
29	Estonia	18.1	99	Inon, Islamic Rep	2.1
30	Malta	18.1	100	Qatar	2.1
31	Latvia	16.5	101	Malta	2.1
32	China	15.2	102	Zimbabwe	2.1
33	Ukraine	14.6	103	Nicaragua	2.1
34	Portugal	13.9	104	Guatemala	2.1
35	Malaysia	11.3	105	Côte d'Ivoire	2.1
36	Slovak Republic	10.3	106	Ghana	2.0
37	Greece	10.2	107	Madagascar	2.0
38	Prison	8.8	108	Cambodia	2.0
39	China	8.6	109	Cameroun	2.0
40	Turkey	8.0	110	<b>Malta</b>	2.0
41	Russian Federation	7.8	111	Nigeria	2.0
42	Cyprus	7.7	112	Bangladesh	2.0
43	Chile	7.1	113	Eritrea	2.0
44	Bulgaria	6.8	114	Zambia	2.0
45	United Arab Emirates	6.6	115	Rwanda	2.0
46	South Africa	5.5	116	Uganda	2.0
47	South Korea	5.0	117	Israel	2.0

## 9.04 Share of workforce employed in knowledge-intensive activities (%)

Share of workforce employed in knowledge-intensive activities (%): 1 = 2014 or most recent

Rank	Country/territory	Value
1	Liechtenstein	82.2
2	Singapore <sup>a</sup>	82.2
3	Switzerland	82.1
4	Hong Kong	82.1
5	Switzerland	81.4
6	Iceland	81.2
7	Iceland	81.2
8	United Arab Emirates	81.1
9	Netherlands	80.4
10	Belgium	80.2
11	Denmark	80.1
12	Finland	80.0
13	Austria	79.8
14	Russian Federation	79.2
15	France	79.0
16	Canada	78.7
17	Germany	78.5
18	New Zealand <sup>b</sup>	78.5
19	Estonia	78.2
20	Ukraine	77.8
21	Croatia	77.7
22	Portugal	77.6
23	United States (USA)	77.5
24	Latvia	77.0
25	Malta	76.9
26	Lower Saxony <sup>c</sup>	76.6
27	Hong Kong (NTR)	77.0
28	Czech Republic	77.0
29	Montenegro <sup>d</sup>	77.0
30	Poland	76.8
31	Egypt <sup>e</sup>	76.5
32	United Arab Emirates <sup>f</sup>	76.1
33	Cyprus	75.9
34	Qatar	75.7
35	Navy	75.6
36	Hungary	75.5
37	Portugal	74.8
38	Ukraine <sup>b</sup>	74.7
39	Taiwan, China <sup>g</sup>	73.5
40	Spain	73.1
41	Kuwait <sup>h</sup>	72.2
42	Spain, Basque	71.8
43	Bulgaria	71.9
44	Lithuania <sup>i</sup>	71.6
45	Greece	70.6
46	Denmark	70.1
47	Malta	69.7
48	Black & Decker	69.1
49	Trinidad and Tobago	67.2
50	Angola <sup>j</sup>	66.5
51	Macau, China	66.2
52	Guatemala <sup>k</sup>	66.0
53	Malta	65.9
54	Costa Rica <sup>l</sup>	65.0

Rank	Country/territory	Value
55	Montenegro <sup>d</sup>	65.0
56	Tunisia	64.7
57	Pakistan	64.5
58	Malta	64.3
59	Venezuela <sup>m</sup>	64.2
60	Qatar <sup>h</sup>	64.2
61	Paraguay	63.7
62	Montenegro <sup>d</sup>	63.6
63	Kosovo, Repub.	63.6
64	Alanya	63.7
65	Angola <sup>j</sup>	63.6
66	Dominican Republic <sup>n</sup>	63.2
67	Iran, Islamic Rep.	63.1
68	St Lucia	63.0
69	Botswana	63.2
70	Peru <sup>o</sup>	63.0
71	Nicaragua <sup>p</sup>	63.8
72	Malta	63.9
73	Namibia <sup>r</sup>	64.0
74	Philippines	63.6
75	El Salvador <sup>s</sup>	63.1
76	Colombia <sup>t</sup>	63.7
77	Guatemala	63.8
78	Pakistan	63.3
79	Malta	63.6
80	Qatar <sup>h</sup>	63.6
81	Uganda <sup>z</sup>	63.5
82	Indonesia <sup>u</sup>	63.3
83	Correa <sup>u</sup>	63.2
84	Monaco <sup>u</sup>	63.1
85	Lao PDR <sup>u</sup>	63.2
86	Zimbabwe <sup>u</sup>	63.0
87	Nepal <sup>u</sup>	63.2
88	Cameroon <sup>u</sup>	63.1
89	Uganda <sup>u</sup>	63.1
90	Chad <sup>u</sup>	63.8
91	Russia <sup>u</sup>	63.3
92	Madagascar <sup>u</sup>	63.2
93	Tanania <sup>u</sup>	63.4
94	Marshall Islands <sup>u</sup>	63.7
95	Maldives <sup>u</sup>	63.9
96	Burkina Faso <sup>u</sup>	63.9
97	Burundi <sup>u</sup>	63.8
98	Bolivia <sup>u</sup>	63.9
99	Brunei and Brunei Darussalam <sup>u</sup>	63.8
100	Burundi <sup>u</sup>	63.8
101	Cameroon <sup>u</sup>	63.8
102	Cape Verde <sup>u</sup>	63.8
103	Uganda <sup>u</sup>	63.9
104	China	63.9
105	Chad <sup>u</sup>	63.8
106	Greece	63.8
107	Greece, Rep.	63.8
108	Kyrgyz	63.8
109	Haiti	63.8
110	Honduras	63.8

# Summary

- Together we need to find out ways to make Pakistan jump 10-15 positions ahead in maximum of the knowledge economy indicators
- HEIs to play a key role
  - **True implementation of OBE** focusing on solving complex engineering problems
  - Making entrepreneurs central to the university, letting them use all resources, students and professors as mentors
  - Providing seed money, space and technical support to startups
- **Best utilization of center of excellences: providing platform for industry-academia collaboration**



ساقیوں نورِ دش کی دلوار کو  
کوئی سورج بھی سے نکل آئے گا  
کامل کے کرد محققوں سے اگر  
ب خزینہ بھی سے نکل آئے گا

دیوبندی  
2013