Latin American wholesale market trends

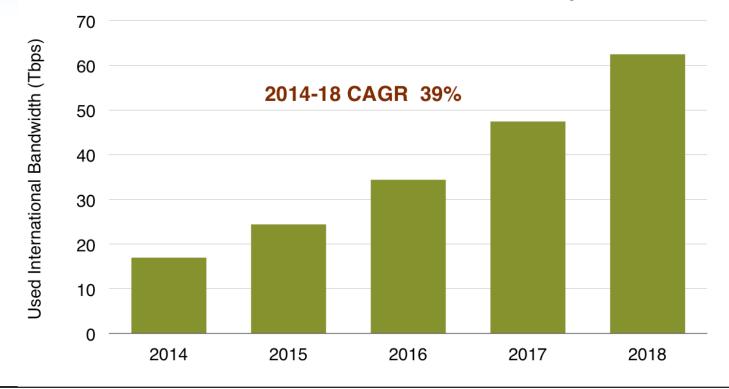
Anahí Rebatta TeleGeography March, 2019

Introductory housekeeping

- TeleGeography focuses on international networks.
- TeleGeography's network deployment model has four components:
 - Internet backbone providers
 - Content providers
 - Research-education networks
 - Enterprises and others
- The prices shown on subsequent slides are **weighted median** prices for a **single** unit for a **one-year** term.

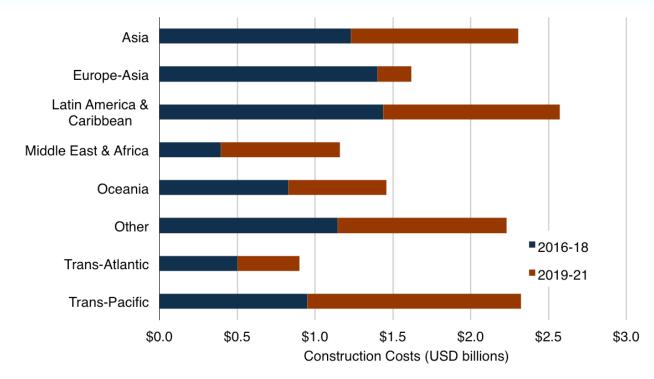
Bandwidth demand in Latin America remains strong ...

Latin America International Bandwidth Usage



... and new cable investment is also strong

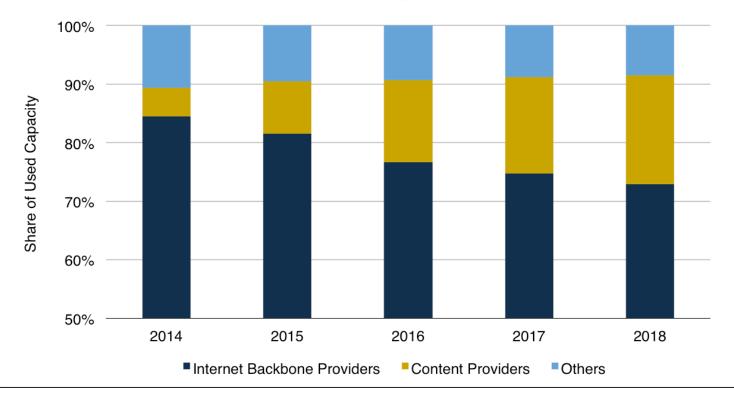
Cable Construction Costs by Region, 2016-2021



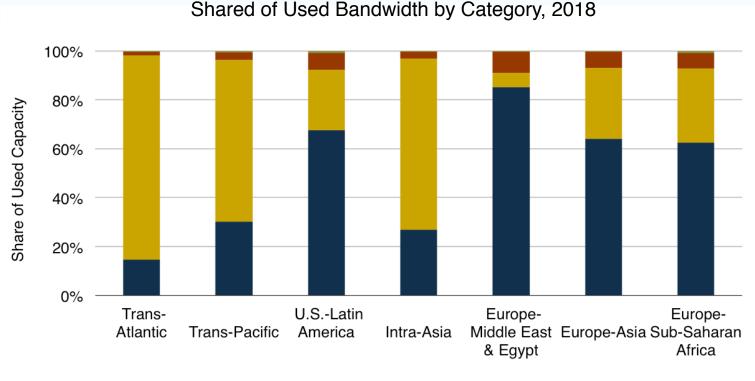
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Content providers' share is increasing in the region...

Used International Bandwidth by Source – Latin America

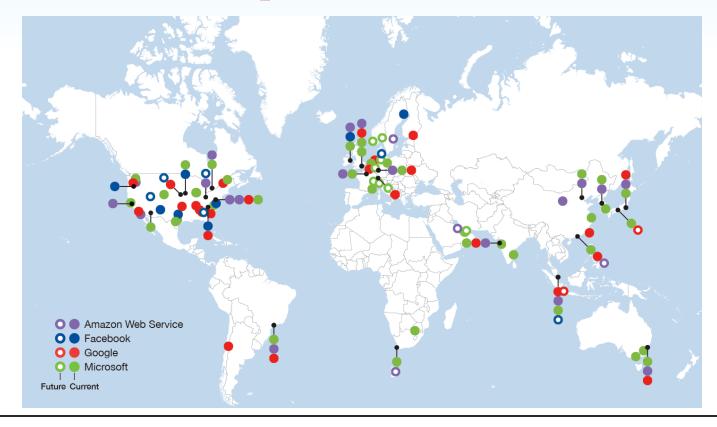


... but remains lower than other routes



Internet Backbone Providers Content Providers Enterprises and Others Research-Educational

Where are content providers located? ...



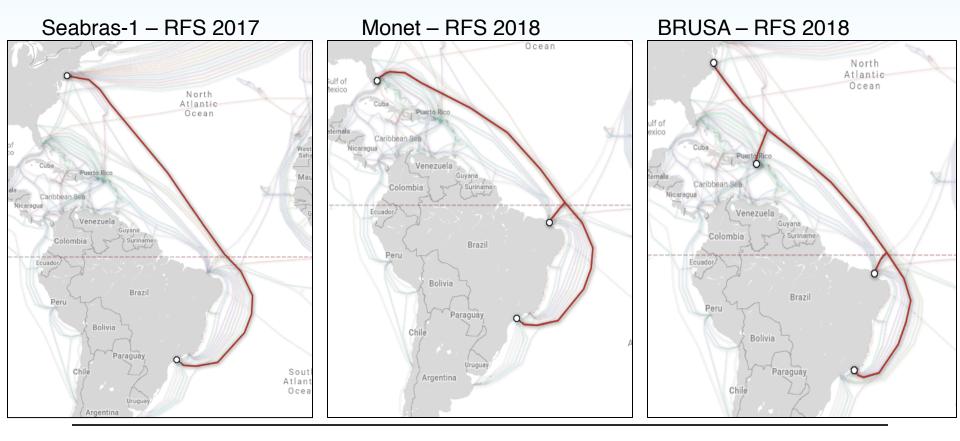
.... and who is investing in Latin America?

Provider	Cable	RFS
Google	Monet	2017
	Junior	2018
	Tannat	2018
	Curie	2019
Facebook	Malbec	2020

Notes: Only publicly-announced cables shown. Content providers may have fiber pairs or capacity on other cables as well.

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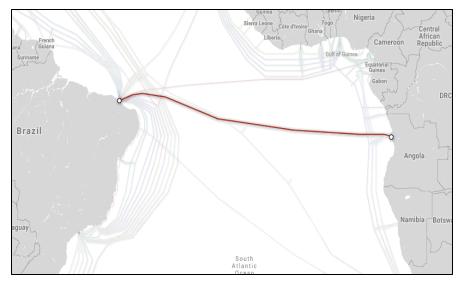
Recently-activated cables in Latin America



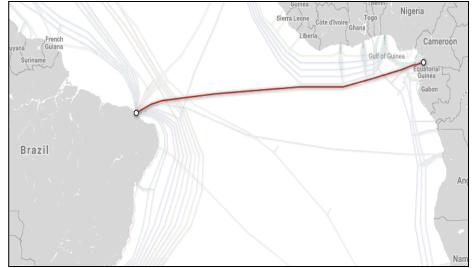
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Recently-activated cables in Latin America

SACS - RFS 2018



SAIL - RFS 2018



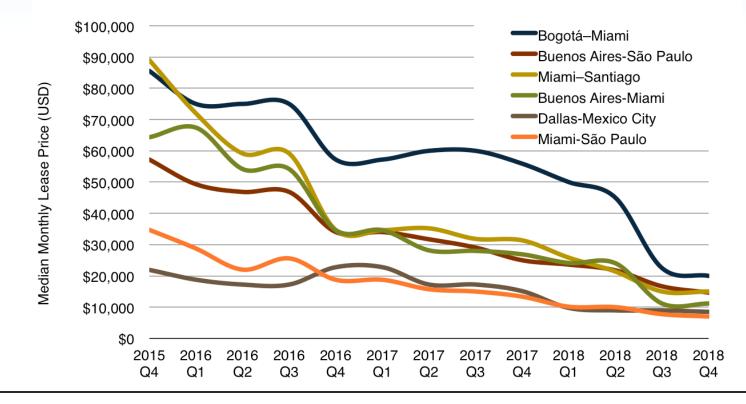
More cables on the way

Provider	Cable	RFS
Google	Curie	2019
Megacable	Gulf of California Cable	2019
Digicel	CARCIP	2019
Subtel	Fibra Optica Austral	2019
Entel Bolivia	International Gateway (IGW)	2019
Gtd. Teleductos	Prat	2020
Facebook, GlobeNet	Malbec	2020
EllaLink	EllaLink	2020
Seaborn Group, Werthein Group	ARBR	2021
Deep Blue Cable	Deep Blue Cable	2021
Seaborn Group	SABR	2021

Notes: Many other undisclosed cables are also planned.

As regional capacity grows, transport prices fall

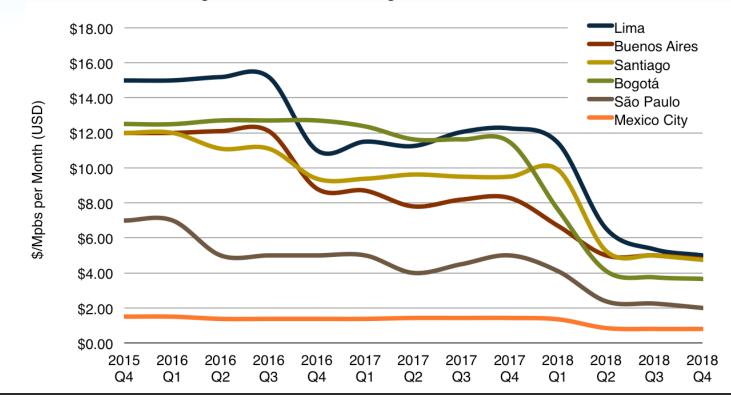
Weighted Median 10 Gbps Wavelength Price Trends



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IP transit price erosion continues as well

Weighted Median 10 GigE IPT Price Trends



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In summary

- Latin American bandwidth demand remains strong roughly doubling every 2 years.
- Content providers' demand in Latin America is on the rise, but levels are far below than on major transoceanic routes.
- Content providers' demand increasingly is unaddressable by wholesale providers as they invest in cables and use these investments to swap capacity with other operators to achieve diversity.
- New supply and competition are driving price erosion throughout the region.



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