



JUNE 2023

 **THE BLOCK PRO**

# Quantifying Cash to Crypto Access Worldwide



1		Introduction and Executive Summary
2		Report Methodology
3		Total Ramp Locations Worldwide
5		On-Ramp Locations by Region
8		Off-Ramp Locations by Region
11		Ramp Locations in Africa
12		Ramp Locations in Asia
13		Ramp Locations in South America
14		Service Providers
15		Conclusion
16		Appendix



# INTRODUCTION

The Stellar Development Foundation approached The Block Pro Research to synthesize and expand on the existing knowledge on the ecosystem on cash on and off-ramps for blockchain-based assets. Exploring the intersections between traditional financial infrastructure and blockchains can help illuminate how these systems interact to solve the financial needs of individuals. Given the continued prevalence of physical cash as a means of payment and a store of value in many places around the world, the infrastructure that bridges the worlds of cash and blockchains can play a key role in allowing individuals to access blockchain-based financial services. The aim of this report was to examine the current state of this infrastructure by taking a data-driven look at the worldwide distribution of cash-based access points to different blockchain networks.

# EXECUTIVE SUMMARY

Here's what we found:

- Two blockchain networks, **Bitcoin and Stellar, are supported by the greatest number of cash on and off-ramps**, respectively. The gap between these two networks and those that trail them is significant. The number of on-ramps that support access to BTC is 240% greater than the second most supported asset. Similarly, the number of off-ramps that support USDC on Stellar is around 230% greater than the second most supported asset.
- The number of on and off-ramps to assets on blockchain networks is not evenly distributed globally. **North America has a disproportionate share of the cash on and off-ramps worldwide.**
- Within North America, **the United States in particular hosts a disproportionate quantity of cash on and off-ramps.**
- **MoneyGram is the single largest provider of on and off-ramp access**, with over three hundred thousand agent locations offering blockchain access worldwide. According to our estimates, MoneyGram also has a higher share of ramp locations across different geographies, with a smaller concentration in North America relative to other providers. The primary asset that MoneyGram supports is USDC on Stellar. The latter thus benefits from MoneyGram's extensive network of cash ramps.



# METHODOLOGY

To quantify the level of access to blockchain-based assets for different blockchain networks, the team at The Block Pro Research used publicly available data related to the number of access points that support various assets and networks.

Public blockchain networks rely on third-party service providers to enable access to assets running on their networks using cash. To compile the data for this report, we looked at close to one hundred such providers to determine the number of cash ramp locations they provide, which blockchain-based assets they offer access to, and how their cash ramp locations are distributed geographically.

The sources we used to determine cash ramp locations by providers included data made publicly available by cash-to-crypto ramp providers on their sites and documentation, and data aggregated by data providers such as CoinATMRadar.

For a more detailed description of our methodology, please refer to the appendix.

# DEFINITIONS

**Cash Ramp** – There are two types of cash ramps: a cash on-ramp is a location where an individual can exchange physical cash for a crypto asset that can be used on blockchain rails. On the flipside, a cash off-ramp is a location where an individual can exchange a crypto asset for physical cash. Individual cash ramps can support one or more crypto assets.

**Service Provider** – Service providers are businesses that offer access to cash ramps and usually collect fees in exchange for offering this service. Individual service providers usually have their own network of locations where users can access their cash ramp services. Service providers have different ways of providing access to ramps. Types of provider ramp locations include retail stores, ATMs, and money transfer agents, among others.

**Crypto Asset** – The specific crypto assets we focused on in this report are fungible tokens that can be transferred on blockchain rails. Such tokens include native platform tokens like BTC and ETH, as well as non-native tokens such as USDC and USDT.

**Blockchain Network** – Blockchain networks are the underlying decentralized technology platforms that enable users to self-custody and transfer crypto assets.













## BITCOIN LEADS OTHER ASSETS IN TOTAL ON-RAMP LOCATIONS

Bitcoin is the crypto asset that's supported by the largest quantity of cash on-ramp locations worldwide, with 276,829 locations supporting it.

Assets on the Stellar blockchain are also supported by a significant number of on-ramps, with USDC on Stellar supported by an estimated 81,527 on-ramps, and XLM supported by 46,647 on-ramps.

Ethereum blockchain assets also have substantial on-ramp support compared to other assets in the top ten. ETH is supported by 73,029 on-ramps, while USDC and USDT on Ethereum are supported by 52,331 and 41,955 on-ramps, respectively.











Asset	Blockchain	On-Ramp Locations
BTC	 <b>bitcoin</b>	276,829
USDC	 Stellar	81,527
ETH	 <b>ethereum</b>	73,029
LTC		72,150
DOGE		55,084
USDC	 <b>ethereum</b>	52,331
XLM	 Stellar	46,647
BCH	 <b>BitcoinCash</b>	44,826
USDT	 <b>ethereum</b>	41,955
DASH	 <b>Dash</b>	37,114



## USDC ON STELLAR HAS THE MOST OFF-RAMP LOCATIONS

USDC running on the Stellar blockchain is the asset that's supported by the greatest number of cash off-ramps, with an estimated 322,000 locations supporting it. XLM, the Stellar blockchain's native asset, is supported by 26,221 off-ramps.

Following USDC on Stellar, Bitcoin is the second most supported asset in terms of cash off-ramps, with 98,208 locations supporting it. Other assets are further behind in cash off-ramp support with the third most supported asset, Litecoin, having 33,332 off-ramps supporting it.

Asset	Blockchain	Off-Ramp Locations
USDC	 Stellar	322,000
BTC	 bitcoin	98,208
LTC	 LTC	33,332
ETH	 ethereum	33,280
USDC	 ethereum	30,180
DOGE	 DOGE	26,259
XLM	 Stellar	26,221
BCH	 BitcoinCash	5,079
USDT	 ethereum	4,522
ZEC	 ZEC	3,741



# CASH ON-RAMPS ARE CONCENTRATED IN NORTH AMERICA

North America tends to have the highest concentration of cash on-ramps for the crypto assets analyzed in this report.

Around 86% of the on-ramps for Bitcoin are located in North America. Of those, 96% are in the United States. Bitcoin on-ramps in North America come in a wide variety of forms, including ATMs and retail store locations. The largest providers offering access to Bitcoin in North America using cash, like Cardcoins and BitDepot, do so through retail stores that allow individuals to purchase pre-paid debit cards, which can then be used to purchase Bitcoin.

Outside of North America, Europe has the highest quantity of cash on-ramps for Bitcoin, followed by Oceania and Africa. Asia and South America both have fewer than one thousand Bitcoin on-ramps. The top providers in Oceania and Africa offer access to Bitcoin through pre-paid debit cards available at retail locations, similar to North America. Cash-based access to Bitcoin in Europe, Asia and South America is most frequently available through ATM locations by providers like Bitnovo, CoinCloud and General Bytes.

The second most supported asset in terms of cash on-ramps, USDC on Stellar, likewise has the highest number of on-ramps located in North America and, in particular, in the United States. Cash-based access to USDC on Stellar is powered by Stellar's partnership with MoneyGram International, one of the largest providers of money transfer services worldwide. Through this partnership, individuals can access USDC on Stellar using cash through MoneyGram's extensive network of money transfer agents, which include dedicated retail agent locations as well as convenience stores, retail store chains and grocery stores, among others.

Stellar's partnership with MoneyGram gives USDC on Stellar the most geographically distributed set of on-ramps out of the crypto assets analyzed. While North America still leads in number of on-ramps for USDC on Stellar, it does so with 39% of the total number of locations worldwide, a low percentage of the total compared to other assets. South America and Europe follow with 23% and 16% of locations, respectively. 10% of locations supporting USDC on Stellar are in Africa, and 9% are located in Asia.

Cash on-ramps for ETH on Ethereum are most highly concentrated in North America and Europe. 66% of on-ramp locations for ETH are in North America and another 33% are in Europe.



## RESEARCH FINDINGS – ON-RAMP LOCATIONS BY REGION

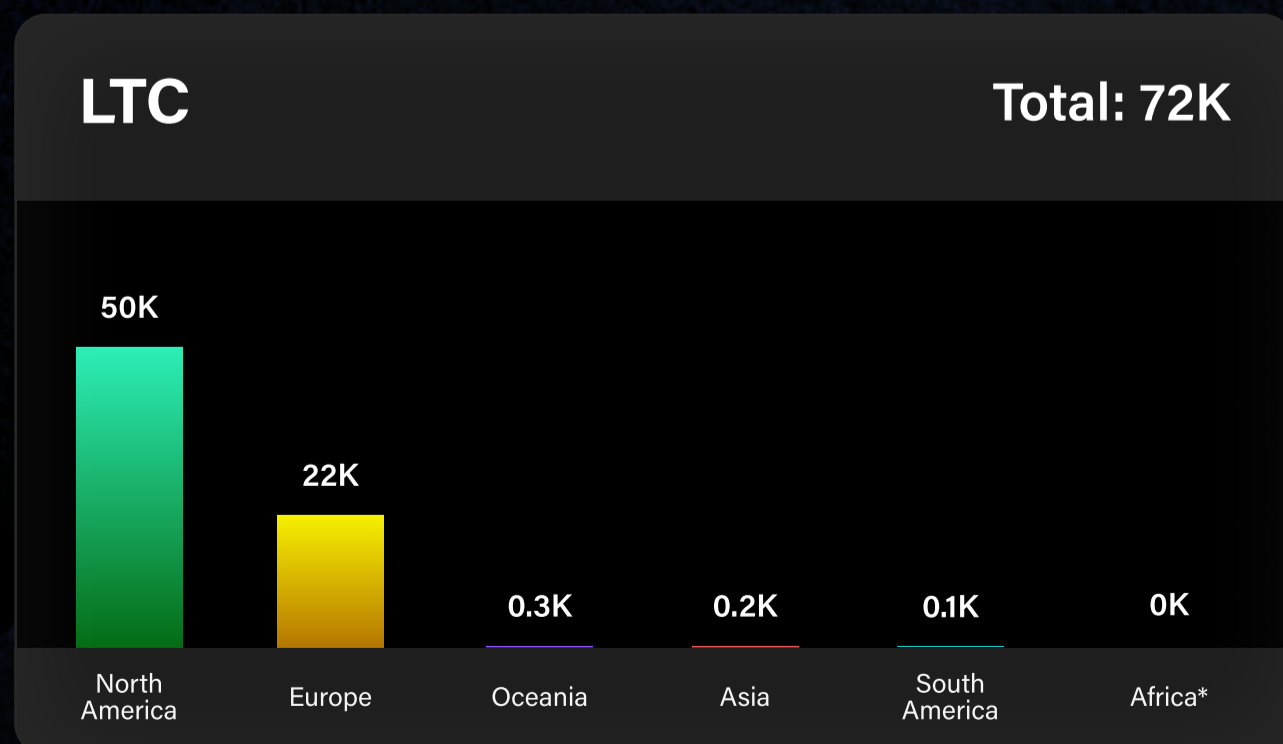
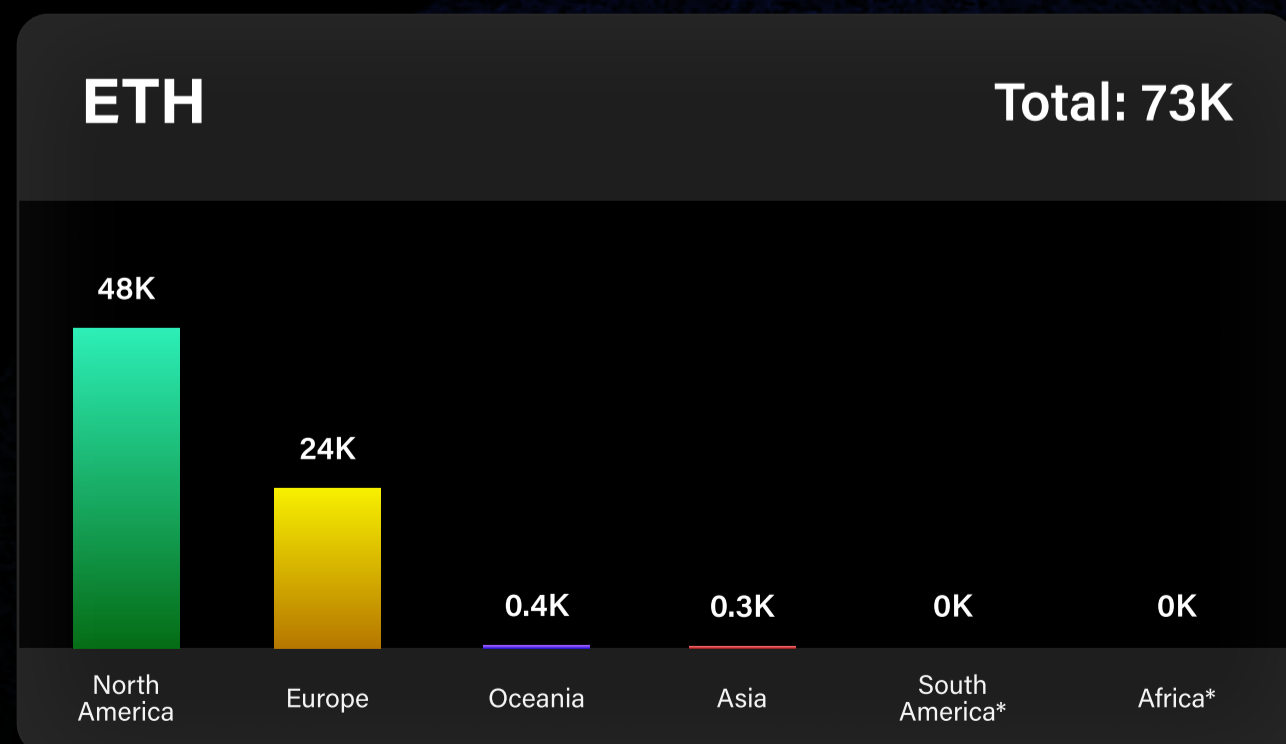
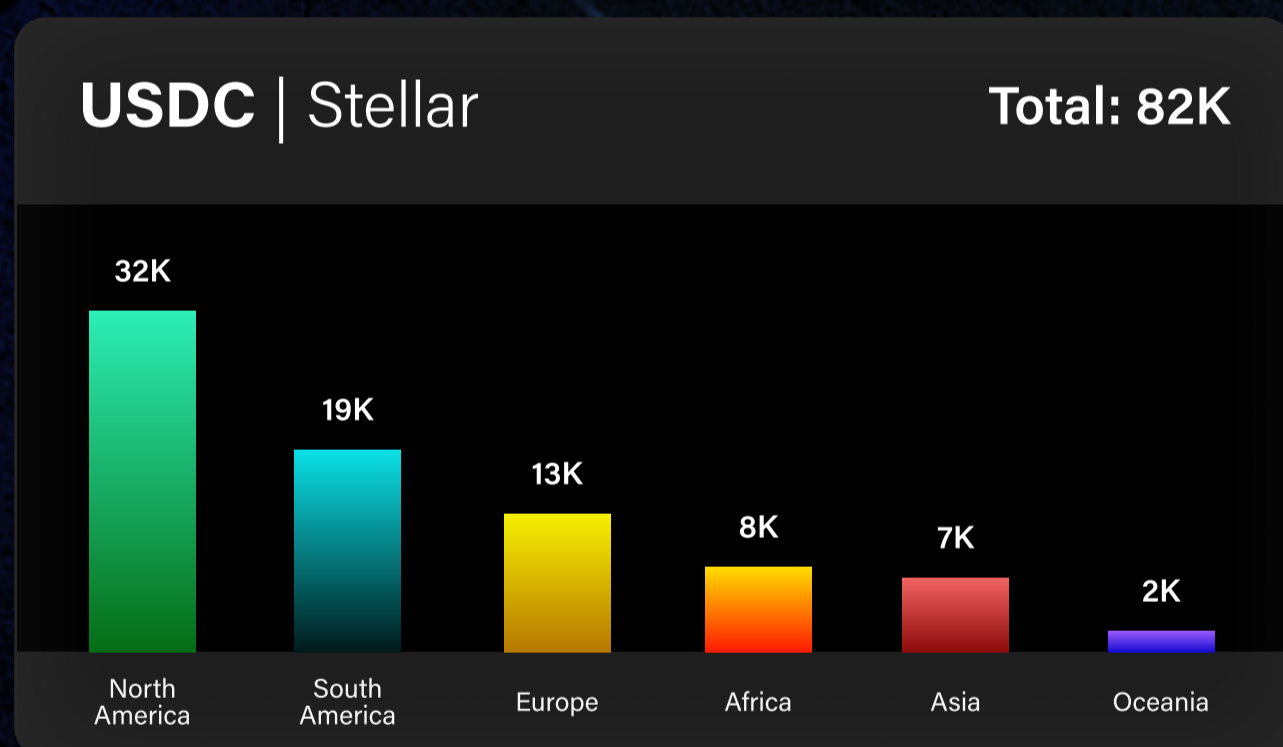
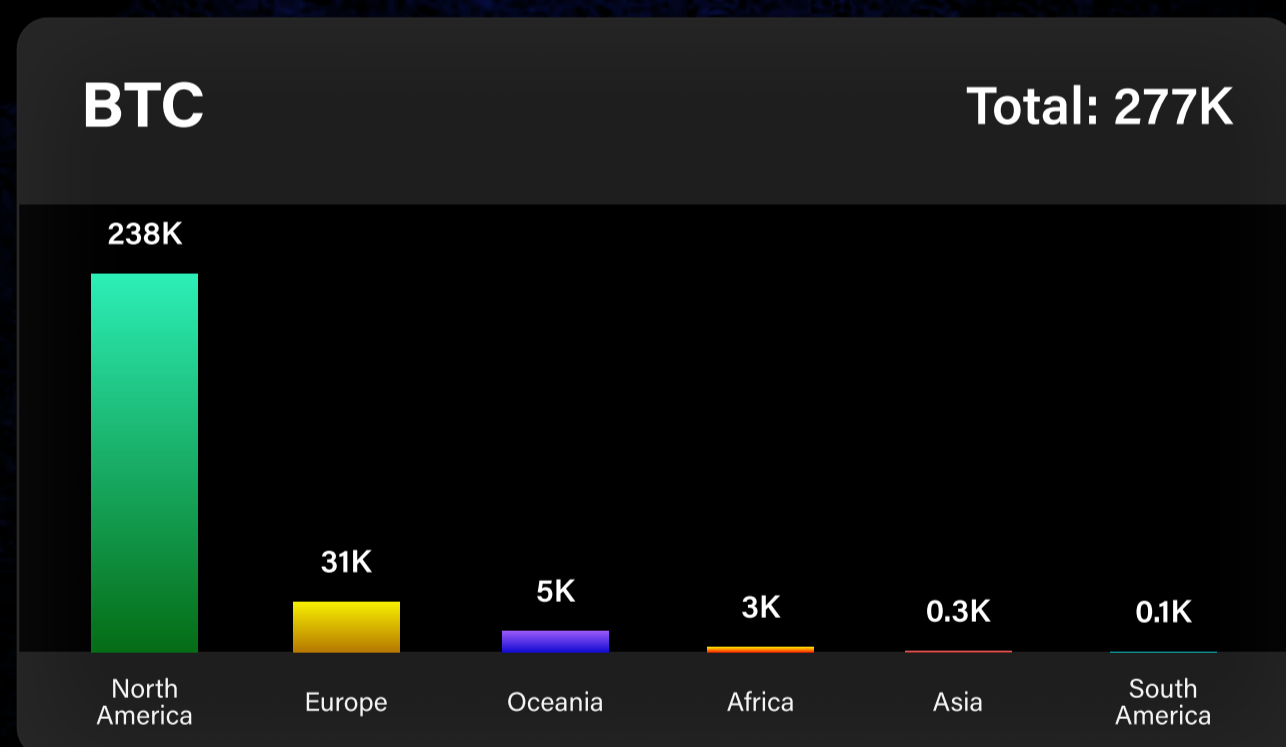
Of the ETH cash on-ramps in North America, the vast majority (96%) are located in the United States. The largest providers on cash on-ramps for ETH in North America, CoinZoom and Coinstar, allow individuals to purchase ETH at retail locations and ATMs, respectively.

In Europe, the greatest number of ETH cash on-ramp locations are in the Iberian peninsula, with 63% of them located in either Spain or Portugal. The top provider of ETH on-ramps in Europe, Bitnovo, allows users to purchase ETH using ATMs.

Litecoin has the majority of its supporting on-ramps located in North America and Europe. 69% of on-ramps for Litecoin are located in North America, with 96% of those located in the United States. Like ETH on Ethereum, the top providers of cash on-ramps for Litecoin in North America are CoinZoom and Coinstar, which enable individuals to access Litecoin through retail locations and ATMs, respectively.

33% of cash on-ramps supporting Litecoin are located in Europe, primarily in Spain and Portugal. The greatest number of Litecoin's cash on-ramp locations in Europe is offered by Bitnovo's ATMs.

## CASH ON-RAMP PROVIDERS BY CONTINENT





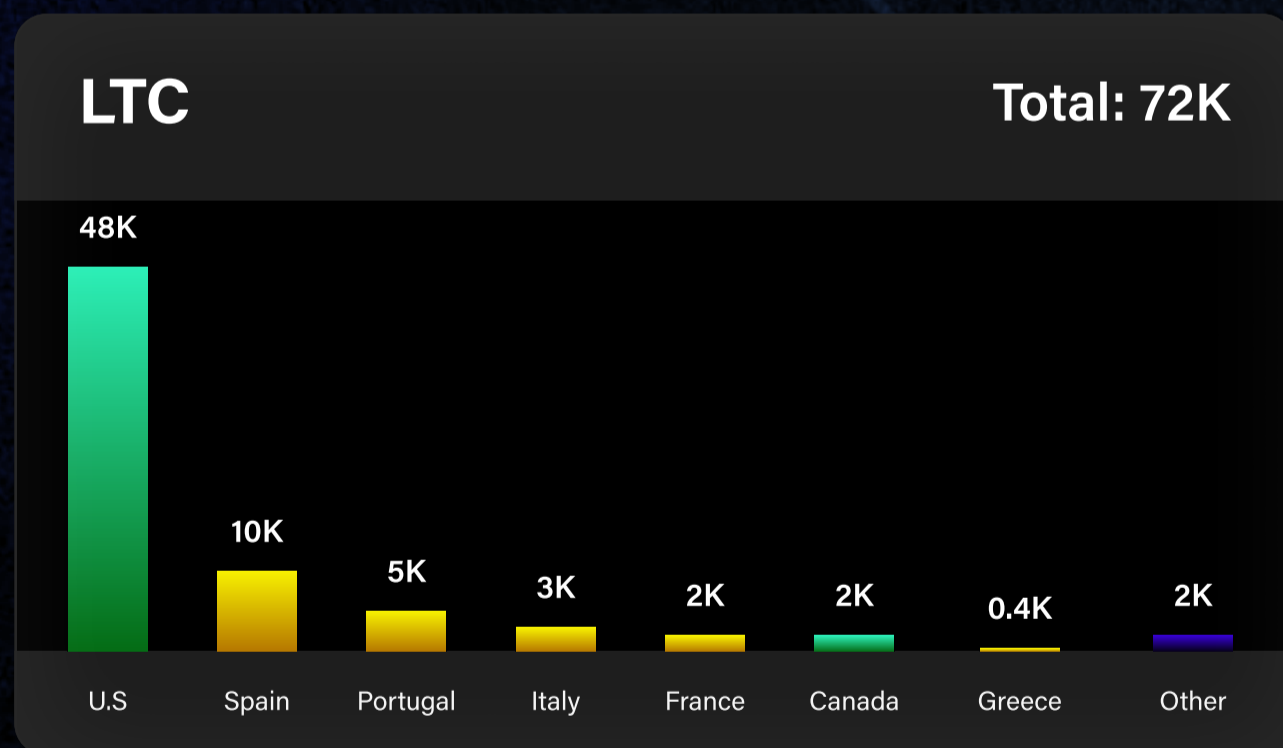
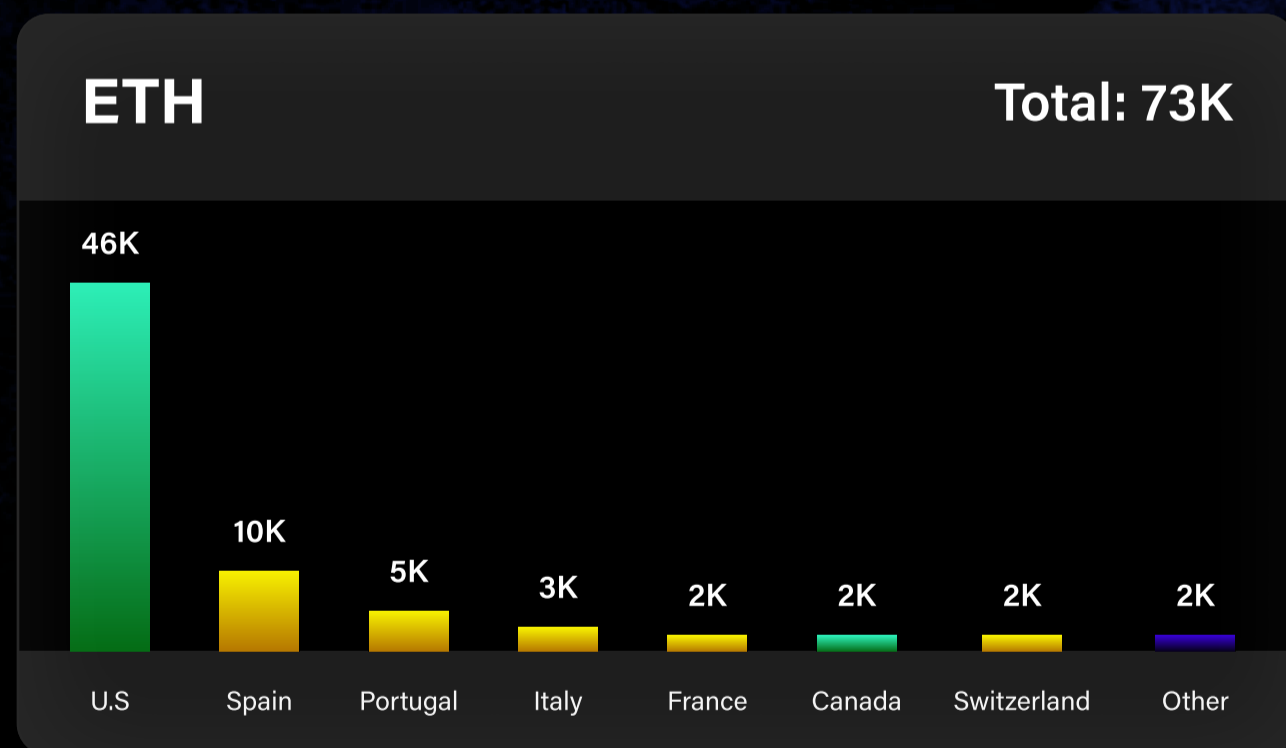
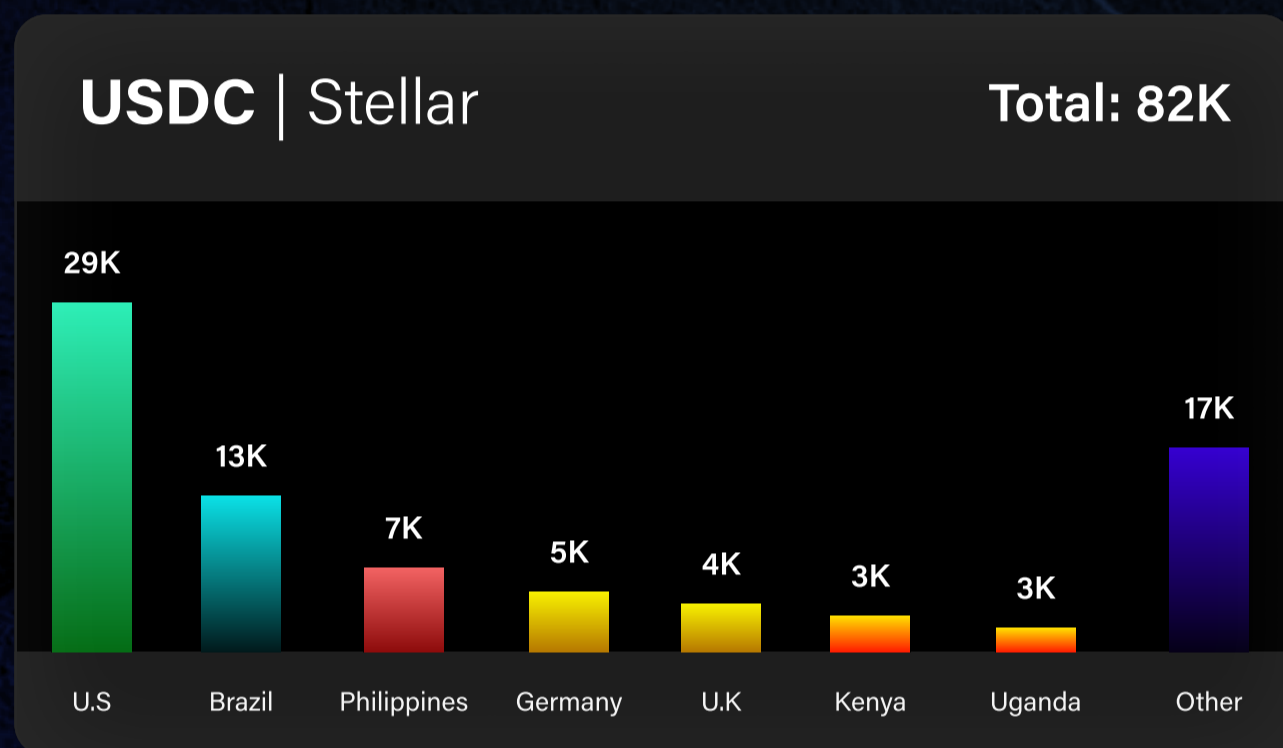


## RESEARCH FINDINGS – ON-RAMP LOCATIONS BY REGION

Cash on-ramps for other assets follow a similar pattern as those in the top four. The majority of the cash on-ramps for these assets are similarly located in North America, with cash ramps in the United States accounting for the great majority of those. Europe tends to follow North America in cash on-ramp support for these assets.

On-ramps for these assets similarly tend to consist of either retail locations like convenience stores, or specialized ATMs offering the ability to purchase crypto assets.

## CASH ON-RAMP PROVIDERS BY COUNTRY





# NORTH AMERICA HOSTS THE MOST OFF-RAMPS FOR MOST ASSETS

The state of affairs for cash off-ramps mirrors that of cash on-ramps. The greatest number of off-ramps for most assets are located in North America, particularly in the United States. USDC on Stellar is the one notable exception to this pattern: the highest number of its off-ramps are located in Asia, per our estimates.

As is the case with its on-ramps, the high number of cash off-ramps supporting USDC on Stellar is powered by Stellar's partnership with MoneyGram. The partnership puts USDC on Stellar in a leading position in terms of off-ramp support, compared to other assets. MoneyGram's wide distribution of money transfer agents also provides USDC on Stellar with a more widely distributed set of cash off-ramps across geographies. This provides individuals with a wide set of options for accessing USDC on Stellar across a variety of retail locations that act as MoneyGram money transfer agents.

An estimated 46% of cash off-ramps for USDC on Stellar are located in Asia – 58% of those are located in India. North America trails Asia in terms of off-ramps for USDC on Stellar with 18% of the asset's cash off-ramps being located there. An estimated 17% of the cash off-ramps for USDC on Stellar are located in the African continent. This latter figure is notable as it underscores a significant difference with the other assets analyzed, which have few off-ramp locations in this region.

The distribution of cash off-ramp locations for Bitcoin greatly differs from USDC on Stellar. Cash off-ramps for Bitcoin are highly concentrated in North America: around 95% of them are located in this region. Of those, close to 99% are based in the United States. Europe follows North America in terms of the number of cash off-ramps for Bitcoin, with around 5% of off-ramps located there. Other continents have low numbers of cash off-ramps for Bitcoin. Cash off-ramp locations for Bitcoin across all of these regions primarily consist of ATMs offered by providers like Coinme, Unbank World and General Bytes.

Cash off-ramps for Litecoin are distributed somewhat similarly to off-ramps for Bitcoin, with an even higher concentration of off-ramps located in North America. 97% of locations which offer cash off-ramp services for Litecoin are located in North America, with 99% of those being located in the United States. Most of the remaining off-ramps for Litecoin are located in Europe, with around 3% of the asset's cash off-ramps being located there. The number of off-ramps in South America, Asia, Africa and Oceania is miniscule in comparison, with the aggregate number of off-ramps across these regions accounting for the remaining less than 1% of off-ramps for Litecoin. As is the case for Bitcoin, most cash off-ramps for Litecoin consist of ATMs where users can exchange Litecoin for cash on a self-serve basis.

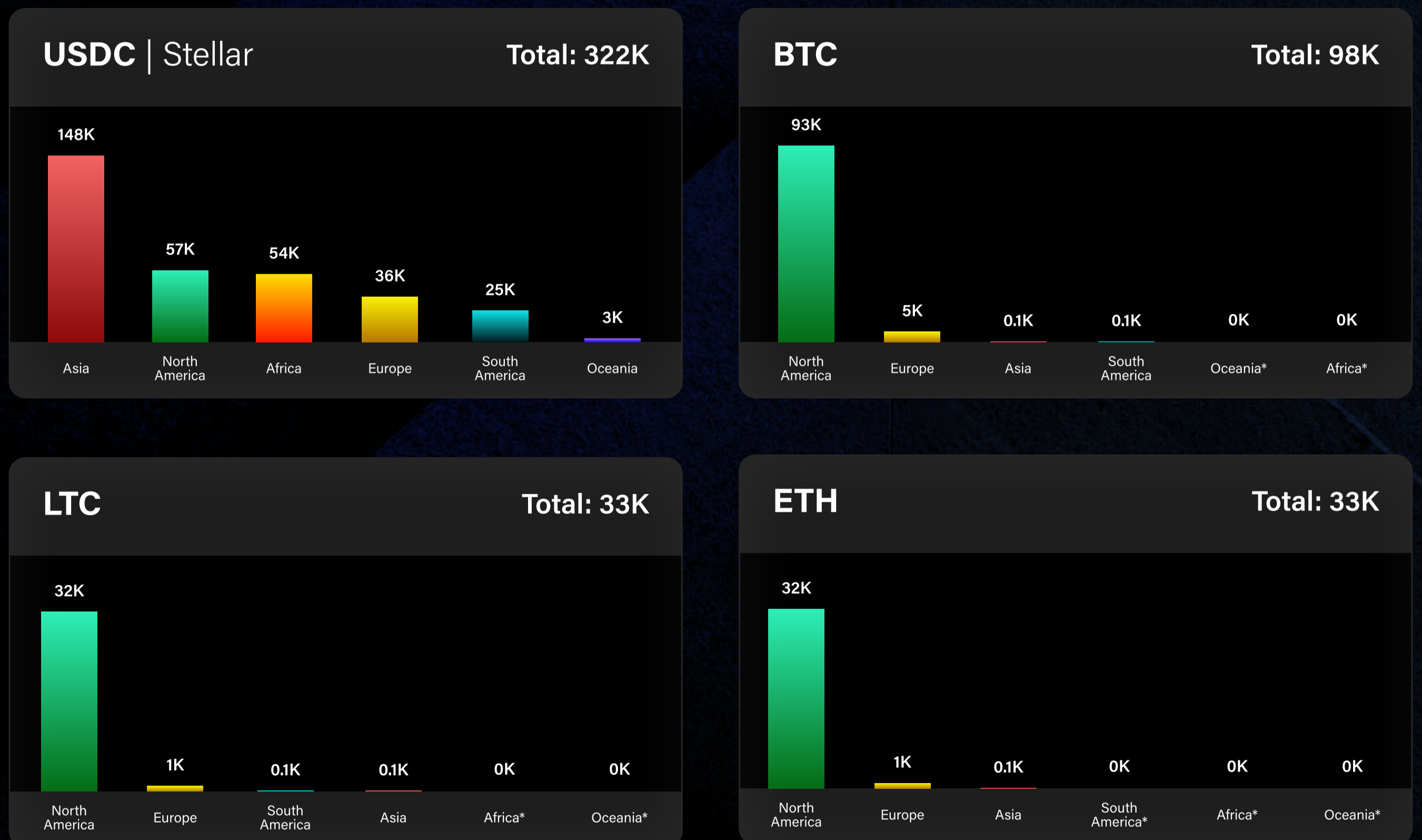


## RESEARCH FINDINGS – OFF-RAMP LOCATIONS BY REGION

Out of the providers of these ATM services, Coinme, Coinflip and CoinCloud offer the greatest number of locations, with the great majority of them being located in North America. General Bytes has the greatest ATM presence out of providers in Europe offering cash off-ramps for Litecoin.

Cash off-ramps for ETH on Ethereum follow the geographical distribution pattern of most of the other crypto assets analyzed, except for USDC on Stellar. The majority of cash off-ramps for ETH are located in North America, with 97% of off-ramps located there. As with Litecoin, 99% of these are located in the United States. Around 3% of ETH off-ramps are located in Europe, with the remaining less than 1% being distributed across Africa, Asia and South America. Most of the significant cash off-ramp providers are ATM providers, with Coinme, Coinflip and Coincloud being particularly prevalent in North America, and General Bytes having the highest number of locations in Europe.

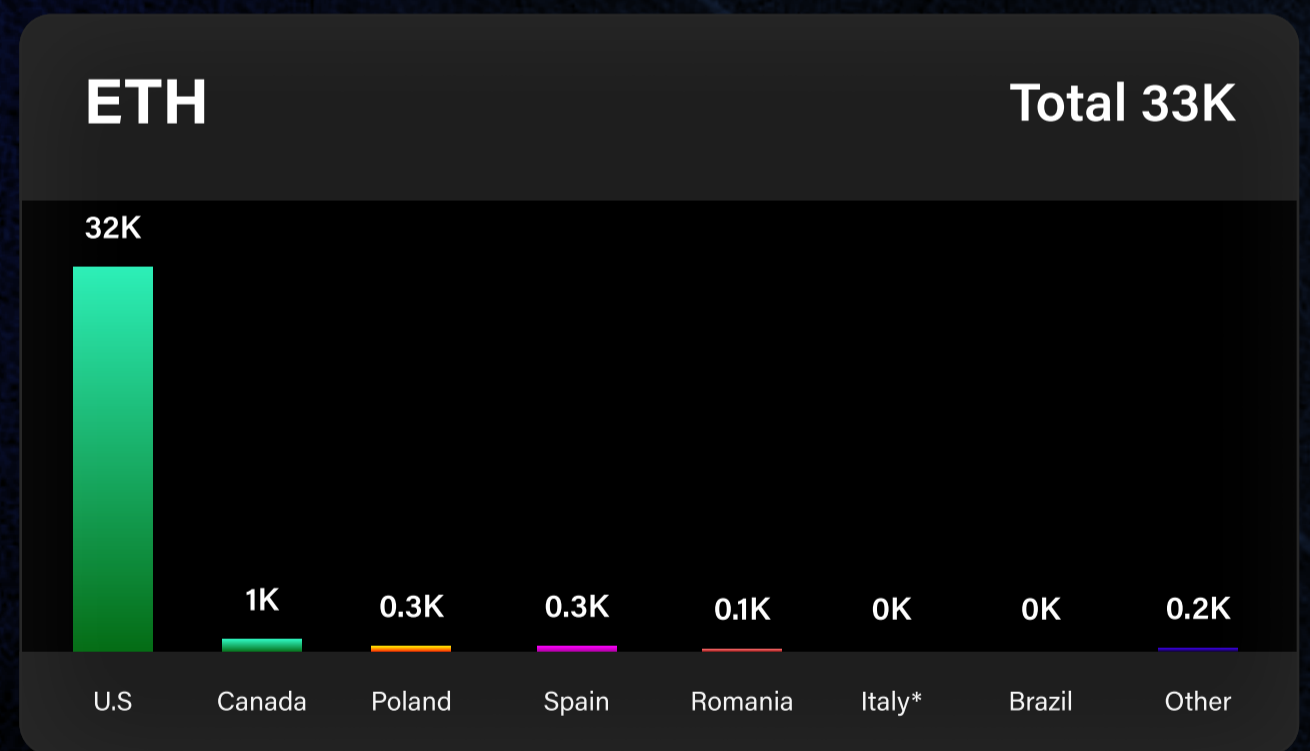
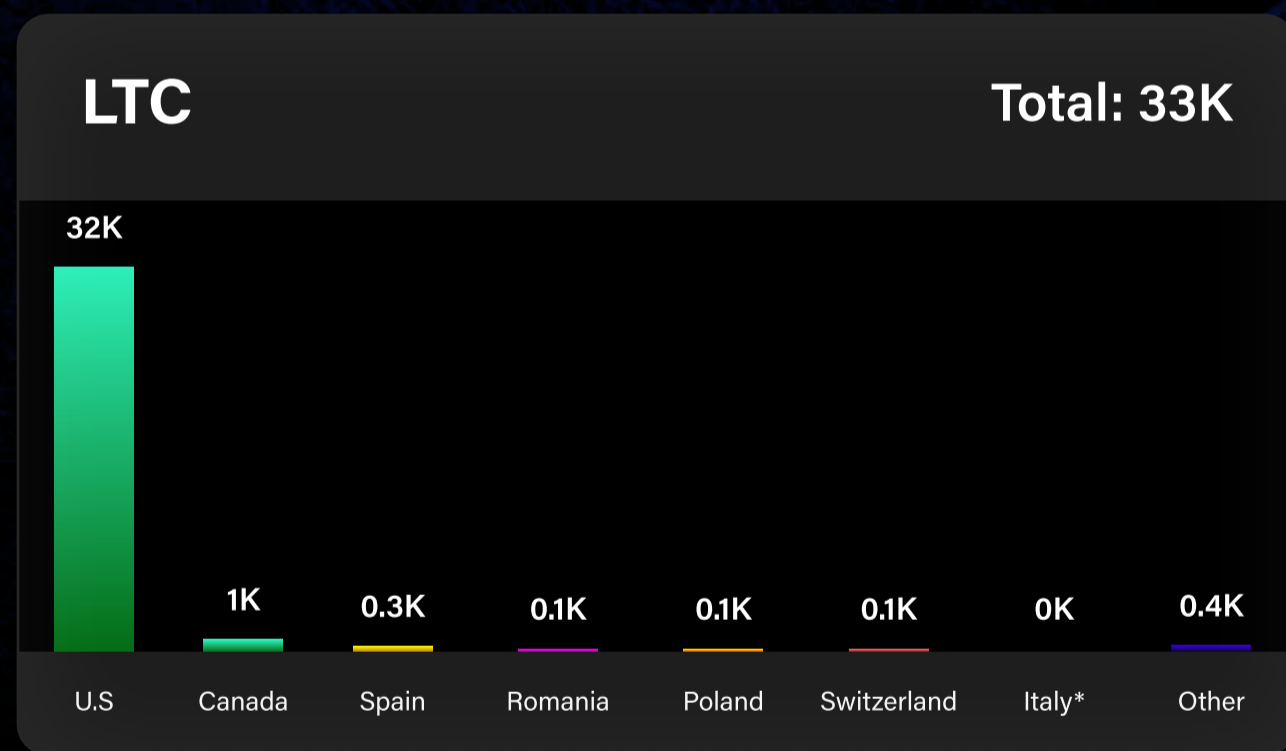
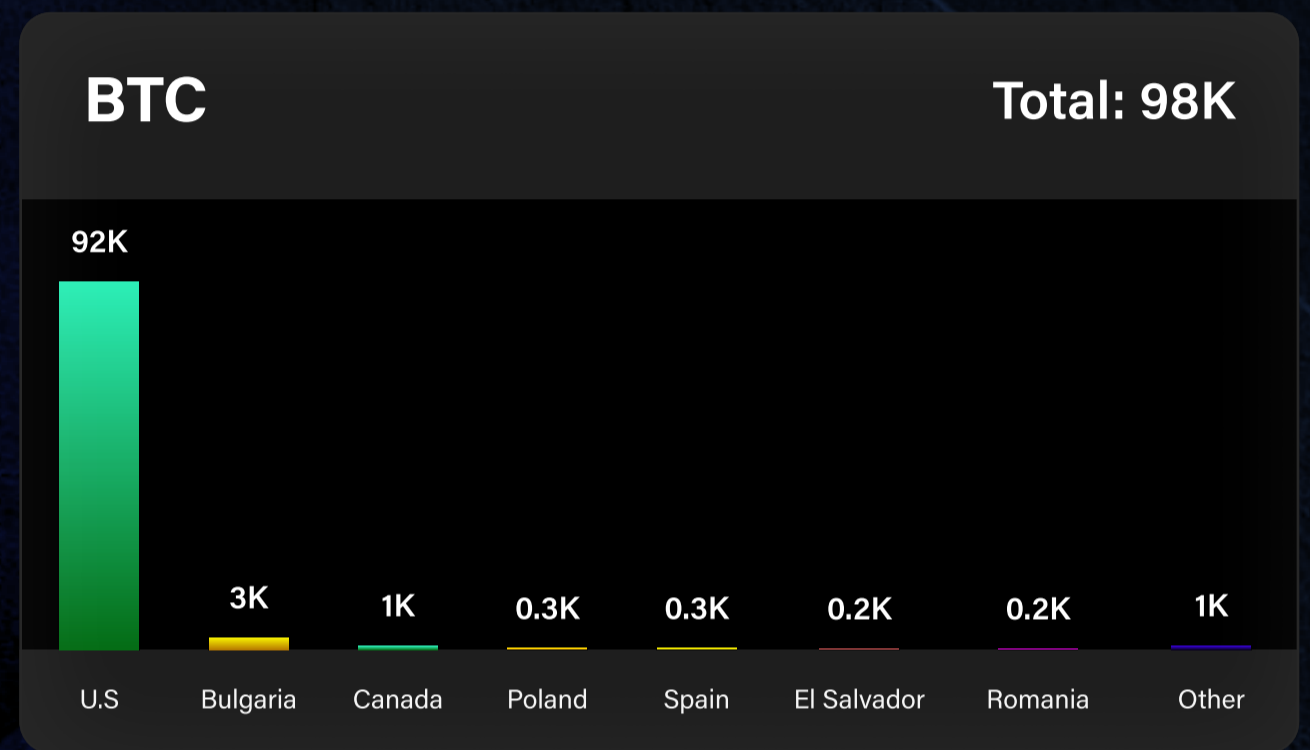
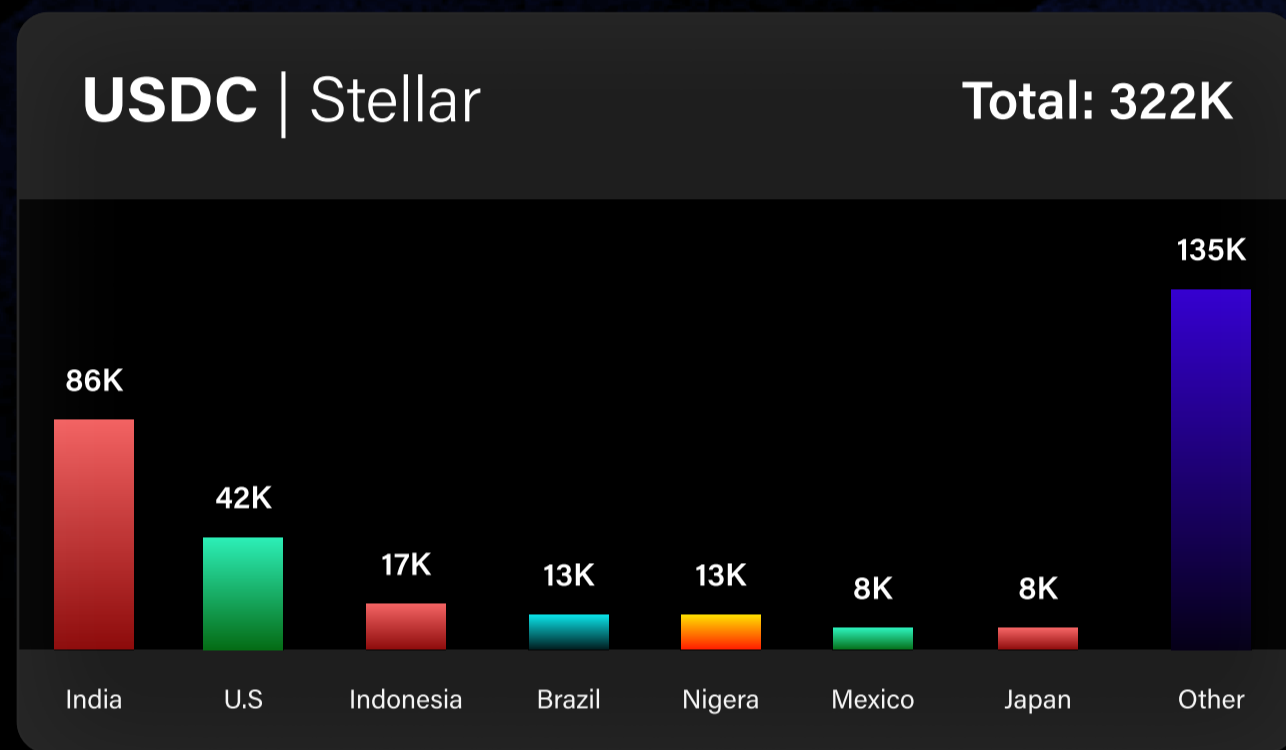
## CASH OFF-RAMP PROVIDERS BY CONTINENT





Cash off-ramps for the other assets analyzed for this report follow a similar pattern as that displayed by most of the top four assets, with the exception of USDC on Stellar. The vast majority of the cash off-ramps for these are located in North America, with the great majority of those being located within the United States. Off-ramps for these assets across other regions is quite low, and for some close to nonexistent. Most of the cash off-ramp providers for these other assets likewise consist of specialized ATMs.

## CASH OFF-RAMP PROVIDERS BY COUNTRY



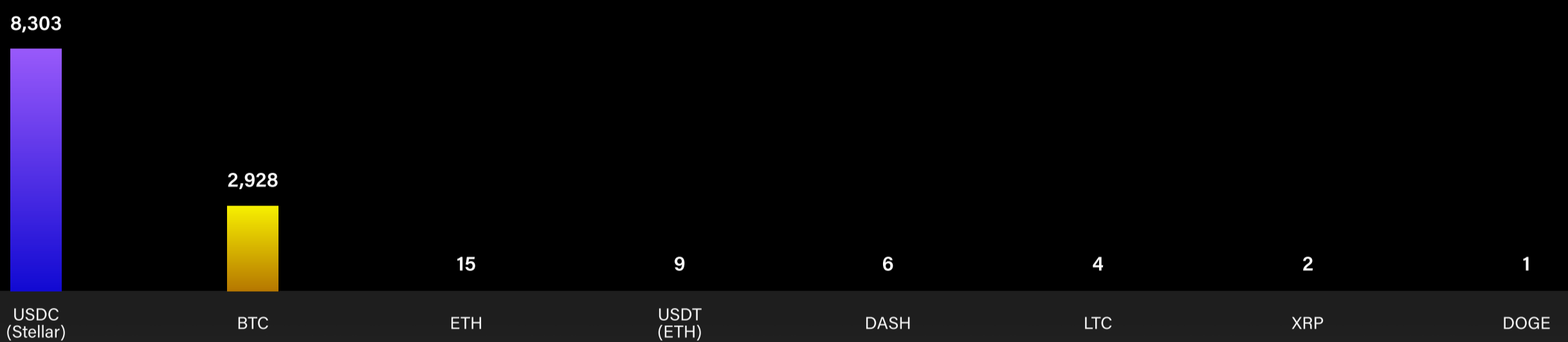


On and off-ramp locations for most other assets besides USDC on Stellar are highly concentrated in North America and Europe. Taking a more detailed look at the ramp locations across Africa, Asia and South America paints a stark picture of the differences in ramp support by asset in these regions.

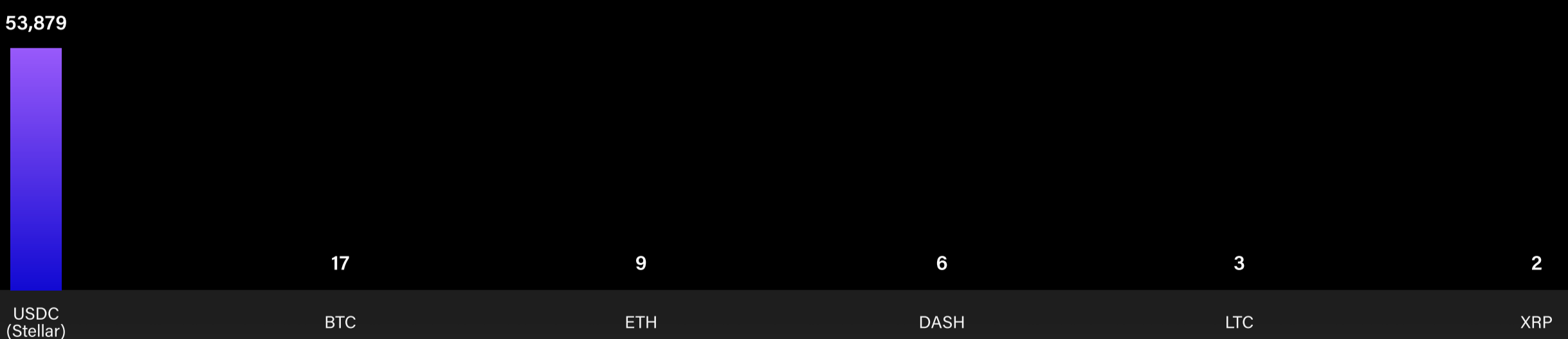
## AFRICA

MoneyGram’s partnership with Stellar makes USDC on Stellar the most supported asset in Africa in terms of both on and off-ramps. Beyond USDC on Stellar, Bitcoin is supported by a significantly higher number of on-ramps than other assets. For all assets other than USDC on Stellar, cash off-ramp support is extremely low.

### On-Ramps



### Off-Ramps

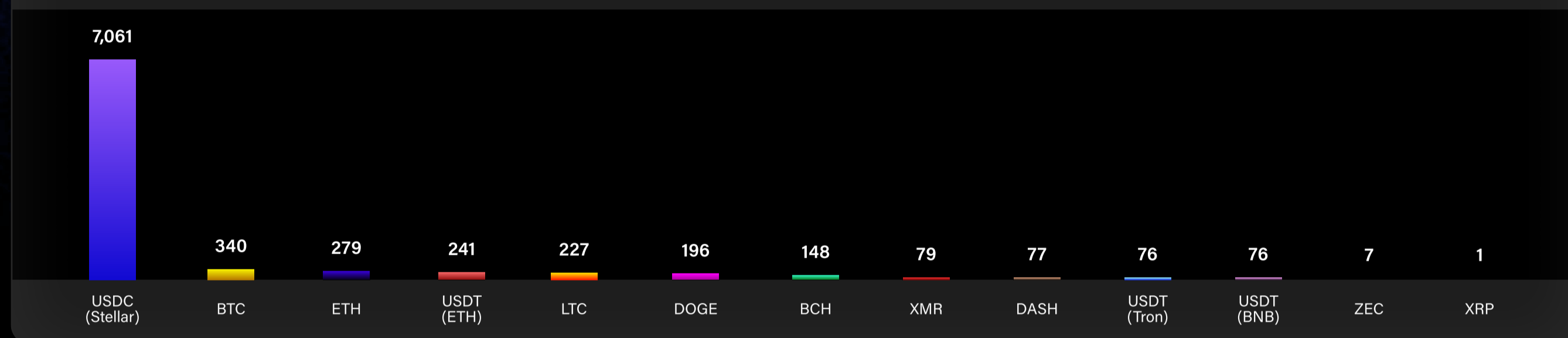




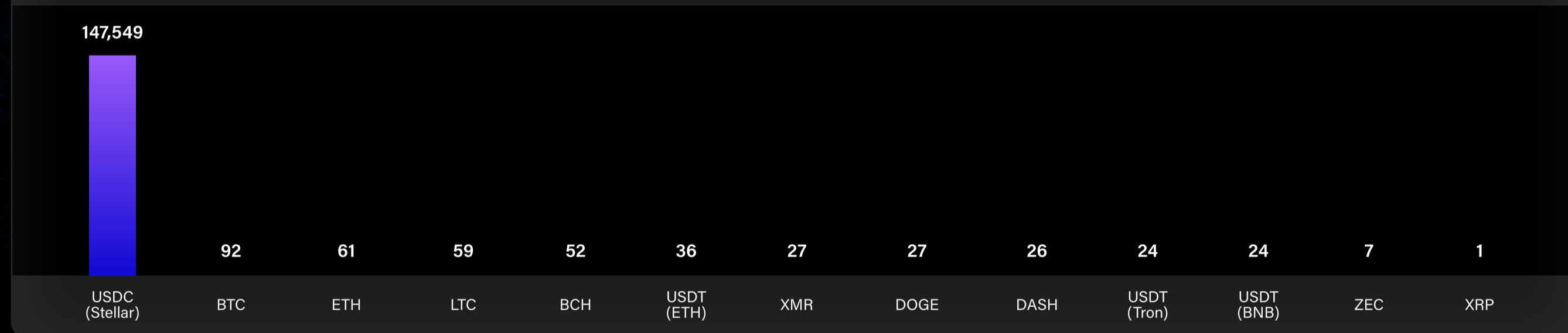
## ASIA

USDC on Stellar likewise has the highest number of both cash on and off-ramps in Asia out of all the assets analyzed. Stellar's partnership with MoneyGram once again plays a key role in driving the difference between USDC on Stellar and all other assets. This difference is particularly stark in terms of the number of off-ramps that support USDC on Stellar. MoneyGram money transfer agents in Asia provide cash off-ramp support for USDC on Stellar at what we estimate is close to 150,000 locations. Our research uncovered fewer than one hundred off-ramp locations for other assets in this region.

### On-Ramps



### Off-Ramps

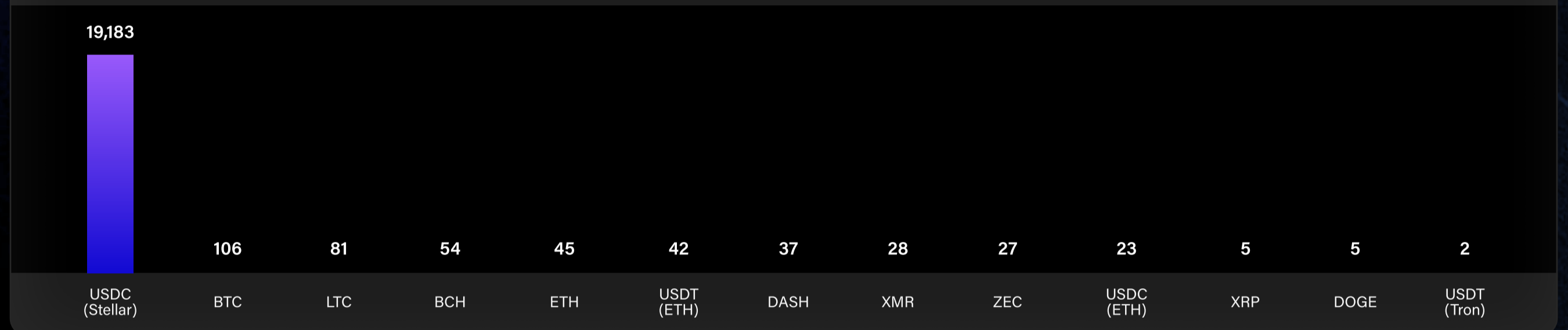




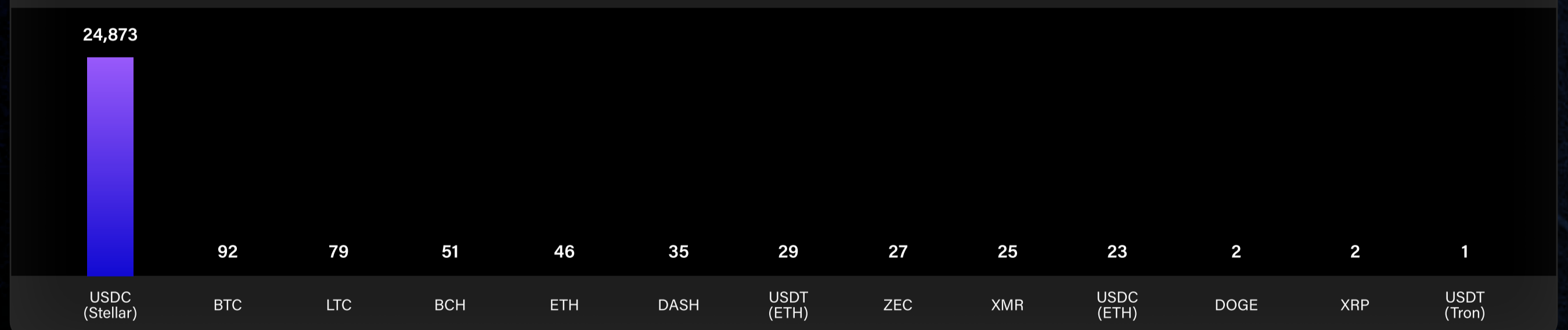
# SOUTH AMERICA

As with Africa and Asia, USDC on Stellar is supported by the highest number of cash off-ramp locations in South America. As is the case in those regions, Stellar’s partnership with MoneyGram drives the high number of off-ramp locations compared to the other assets analyzed. While on and off-ramp locations for other assets barely reach the hundreds in South America, MoneyGram money transfer agents supporting USDC on Stellar number in the tens of thousands in the region.

## On-Ramps



## Off-Ramps



Figures for USDC on Stellar are estimates based on publicly available data and data provided by the Stellar Development Foundation. Sources: The Block Research analysis, CoinATMRadar, provider websites, Stellar Development Foundation.



## MONEYGRAM LEADS OTHER ON-RAMP AND OFF-RAMP PROVIDERS

Much of the difference that exists between USDC on Stellar and other assets across regions is due to Stellar's partnership with MoneyGram. As one of the largest money transfer service providers worldwide, MoneyGram easily surpasses dedicated crypto on and off-ramp providers in terms of total locations.

While USDC on Stellar benefits from the support of a single massive on and off-ramp provider in MoneyGram, Bitcoin benefits from being supported by a long tail of smaller providers. As likely the most well-known crypto asset around the world, most providers tend to offer access to BTC, lifting it above most other assets in terms of cash ramp support.

## TOP 10 CASH RAMP PROVIDERS

Provider	Type	Assets Supported	Total Locations	On-Ramp Locations	Off-Ramp Locations
MoneyGram	Retail Agents	USDC (Stellar)	300,000	72,419	300,000
cardcoins	Prepaid Giftcards	BTC	58,944	58,944	0
coinme	Agents & ATMs	8 Assets	40,205	18,205	30,908
Bit Depot	Prepaid Giftcards	BTC	38,673	38,673	0
UNBANK	Retail Store	BTC	25,696	14,248	25,696
libertyX	ATM	BTC	25,000	25,000	25,000
bitnovo	Coupons & ATMs	18+ Assets	19,752	19,752	Not Specified
cryptodispensers	Retail Store	BTC	16,149	16,149	0
CoinZoom	Retail Store	40+ Assets	13,244	13,244	0
GB GENERAL BYTES	ATM	40+ Assets	9,834	9,834	780

Figures for USDC on Stellar are estimates based on publicly available data and data provided by the Stellar Development Foundation. Sources: The Block Research analysis, CoinATMRadar, provider websites, Stellar Development Foundation.





## CRYPTO ON AND OFF-RAMP SERVICES HAVE ROOM TO GROW

Blockchains stand to offer an array of benefits across a number of financial use cases compared to the world's existing financial infrastructure. The shared, internet-native ledgers that blockchains provide can increase the efficiency of payments, cross-border transfers, and other financial services. However, adoption of this technology is still ongoing as blockchain platforms continue to mature. As blockchains become a more integral part of the existing financial system, the intersection points between both types of infrastructure will gain increasing importance, allowing individuals to switch between them in order to meet their financial needs.

With this in mind, the points of intersection between blockchains and the most basic financial instrument, physical cash, still have significant room to develop. While regions like North America already enjoy a substantial amount of coverage in terms of the number of locations that allow users to switch back and forth between blockchains and cash, other regions of the world significantly lag in on and off-ramp coverage. An opportunity may thus exist for other providers to expand access to blockchain-based assets across under-covered regions in the world, such that the benefits offered by the technology can be more widely taken advantage of, even by those who do not have access to traditional forms of digital money like bank deposits and credit cards. In this respect, providers like MoneyGram are paving the way to offering the benefits of a blockchain-based financial infrastructure to users of cash around the world.



 **THE BLOCK PRO**

# Appendix



# APPROACH

The purpose of this report was to take a data-driven look at how different blockchain networks compare in terms of cash on and off-ramps. The data for this report was compiled by research analysts from The Block Pro's Research team. To collect the data for this report, we followed the following steps.

1) Service Provider Identification: We first analyzed the cash to crypto landscape and identified providers of cash to crypto services covering the entire gamut of service modalities we could find (including ATMs, retail chains, remittance service agents, etc.). These providers were identified through a comprehensive web search for services offering ways to convert cash to cryptocurrencies and assets running on blockchain networks. Providers without a web presence, or with insufficient data to quantify their ramp locations, were excluded from our analysis.

2) Data Collection: For each provider, we first assessed whether their operations were active based on information publicly available via web sources. Our initial analysis identified a list of over one hundred such service providers, which was filtered to around eighty which publicly available information suggested were still actively operating. For each of these providers, we collected data on the number of on and off-ramp locations they offer, and the assets and blockchain networks they provide access to. Providers often provide maps of their locations to guide potential customers looking to use their services. We leveraged these maps to quantify on and off-ramp locations by country. When such maps weren't available or didn't provide comprehensive information, we leveraged other information made publicly available by the provider to determine the number of ramp locations they offered. In such cases, we also used data aggregated by CoinATMRadar, which maps on and off-ramp locations for providers worldwide based on data submitted by providers as well as information submitted by retail users. We leveraged information in provider websites and documentation to determine which assets and networks they supported, and where possible to determine whether specific locations supported specific assets. We did not independently verify the data advertised by providers nor did we test individual on/off ramps to assess whether they exist in the advertise locations and are functional. We also did not independently verify the data collection practices of aggregators like CoinATMRadar, but reviewed their methodology as provided by representatives of the company. In the case of one specific ramp provider, MoneyGram Access, we were unable to find publicly available information specifying the number of MoneyGram agent locations supporting the program. To assess the distribution of on/off ramp locations for this provider, we leveraged data on the overall number of supported locations provided by the Stellar Development Foundation and made estimates on the geographic distribution of on/off ramps using publicly available information on which countries support on or off ramps. We based our estimates on assumptions of the ratio of remittance agents to population size. We did not engage entities related to other blockchain networks in our data collection process.



## DATA SOURCES

**Provider Websites & Online Documentation:** Data related to the number and geographical distribution of on/off ramp locations was collected from provider websites and their associated service location maps where available. Information on the assets and networks supported was also gathered from provider websites and any supporting documentation made available by providers online.

**On/Off Ramp Data Aggregators:** Where insufficient data was provided by individual provider websites, we leveraged aggregation services like CoinATMRadar to assess the number, geographical distribution, and assets supported by specific providers. CoinATMRadar collects such data from providers themselves as well as from information submitted by retail users of these services.

**Stellar Development Foundation:** In the specific case of MoneyGram access, we leveraged data on the total number of participating locations provided by the Stellar Development Foundation, due to the lack of publicly available sources for this information.