



pix

powered by **Banco Central**

2023

why

one project, **multiple objectives**

- Add **convenience** and remove frictions in digital payments
- Contribute to the **digitalization** of payments
- Promote financial **inclusion**
- Improve **competition** in the payment system
- Offer a payment option for **innovative** businesses
- Lower payment costs



one product, **multiple uses**

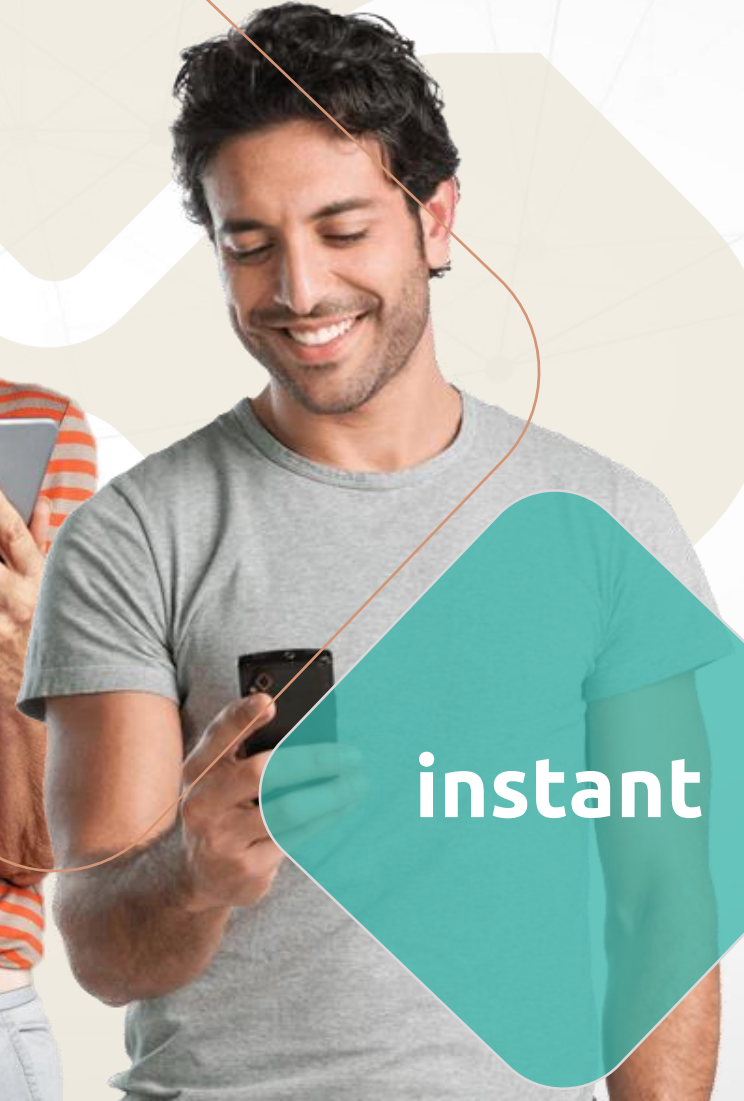
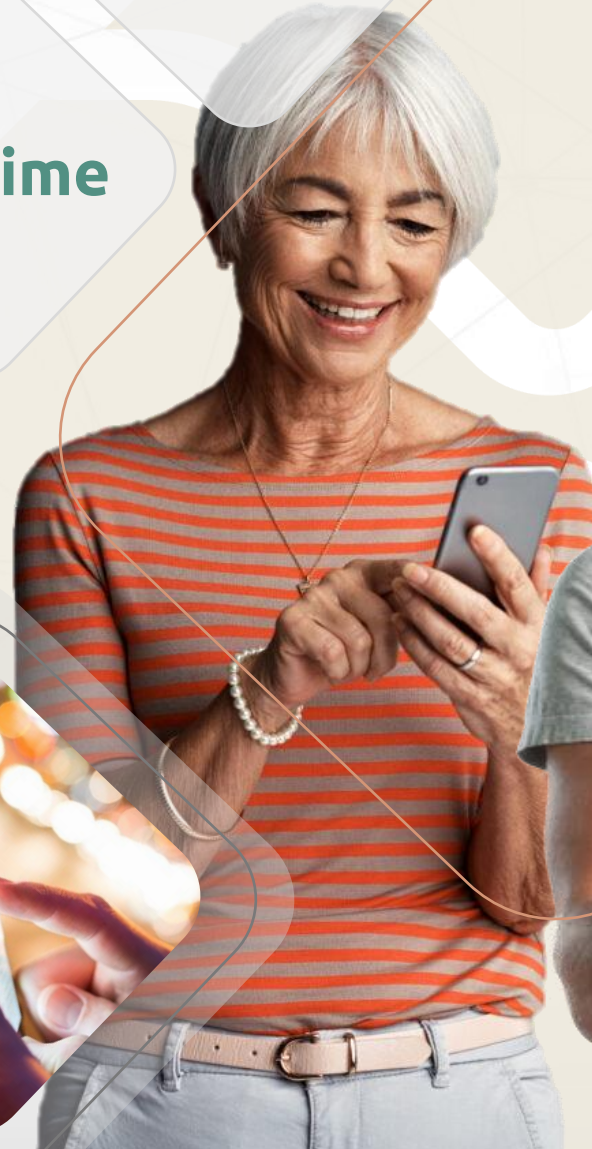
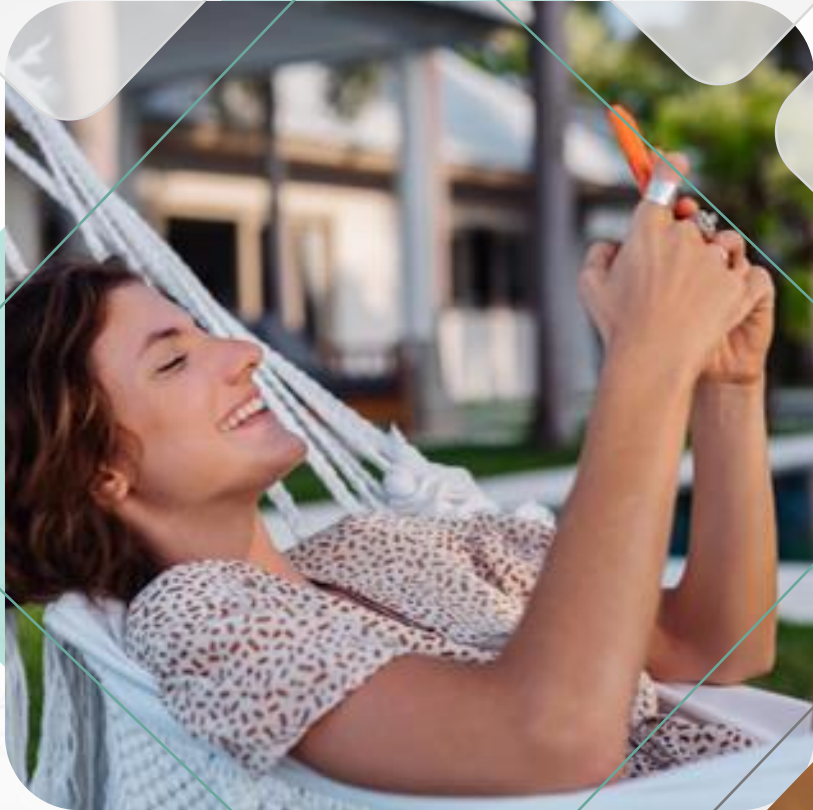


**a single
instrument**

anywhere

**for
anything**

any time



instant

1 transactions

2 users

3 domestic perspective

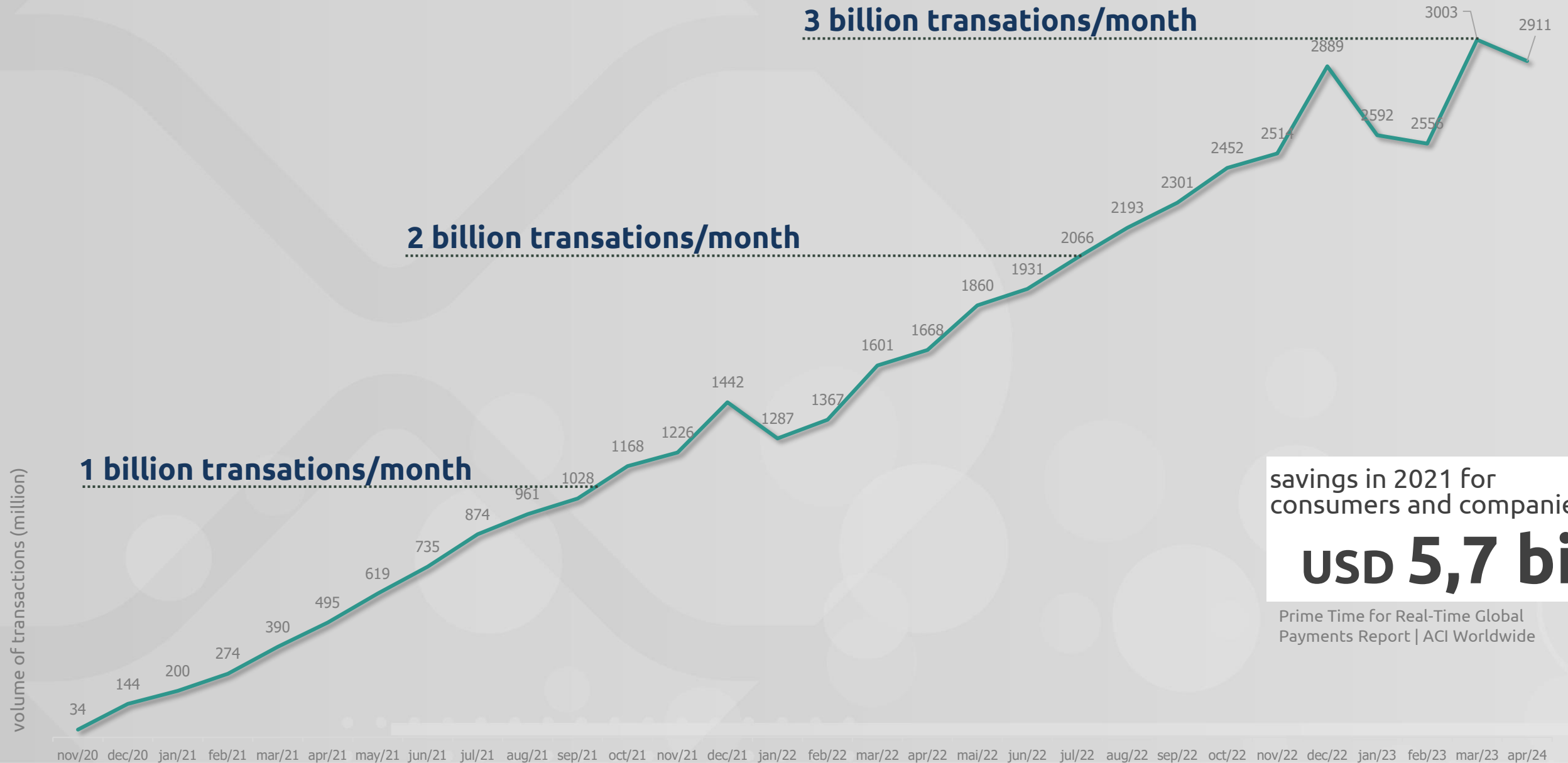
4 international perspective

5 initiation

some figures

Pix transactions

1

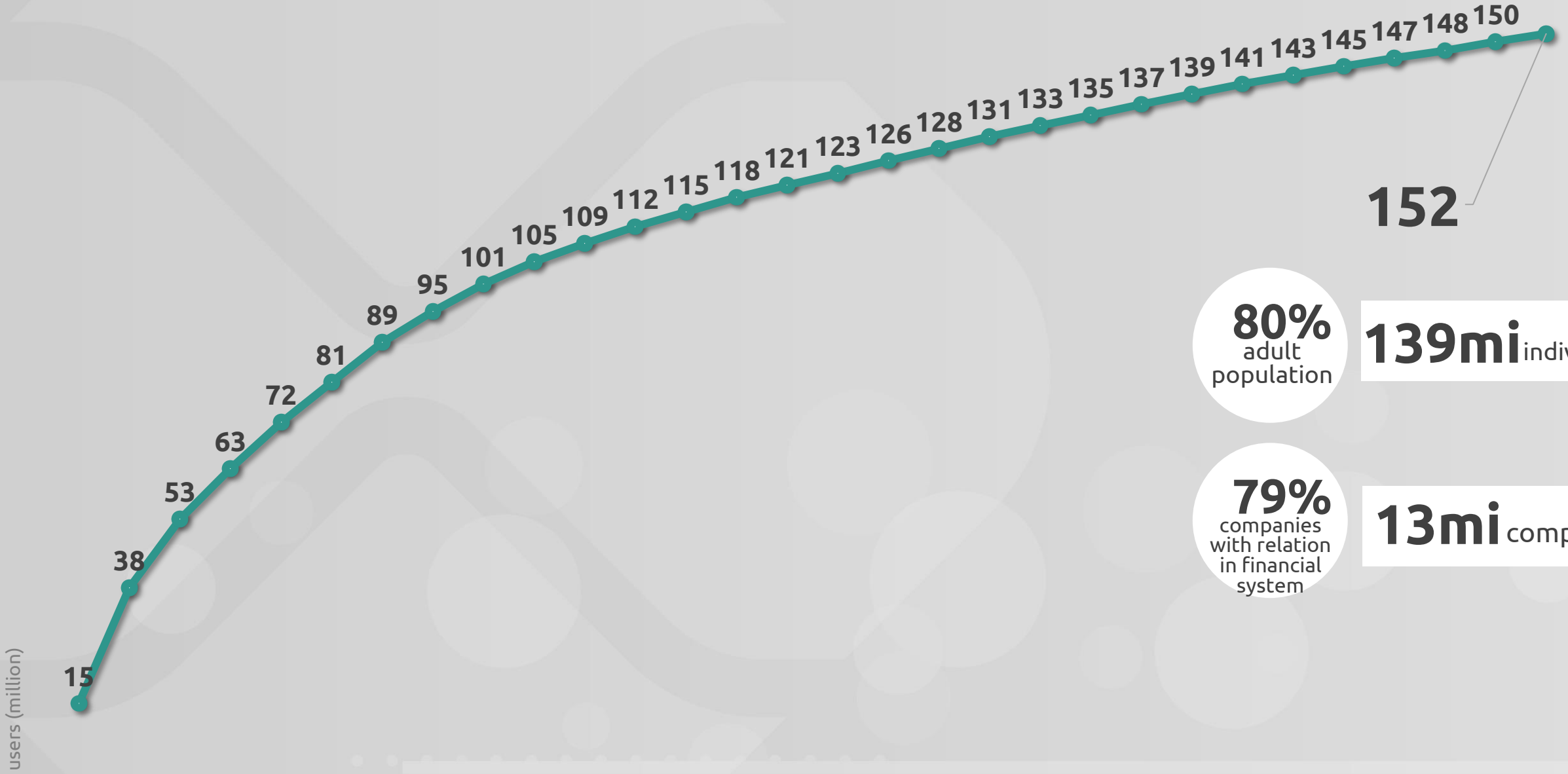


savings in 2021 for consumers and companies

USD 5,7 bi

Prime Time for Real-Time Global Payments Report | ACI Worldwide

Pix Users **2**



152

80%
adult
population

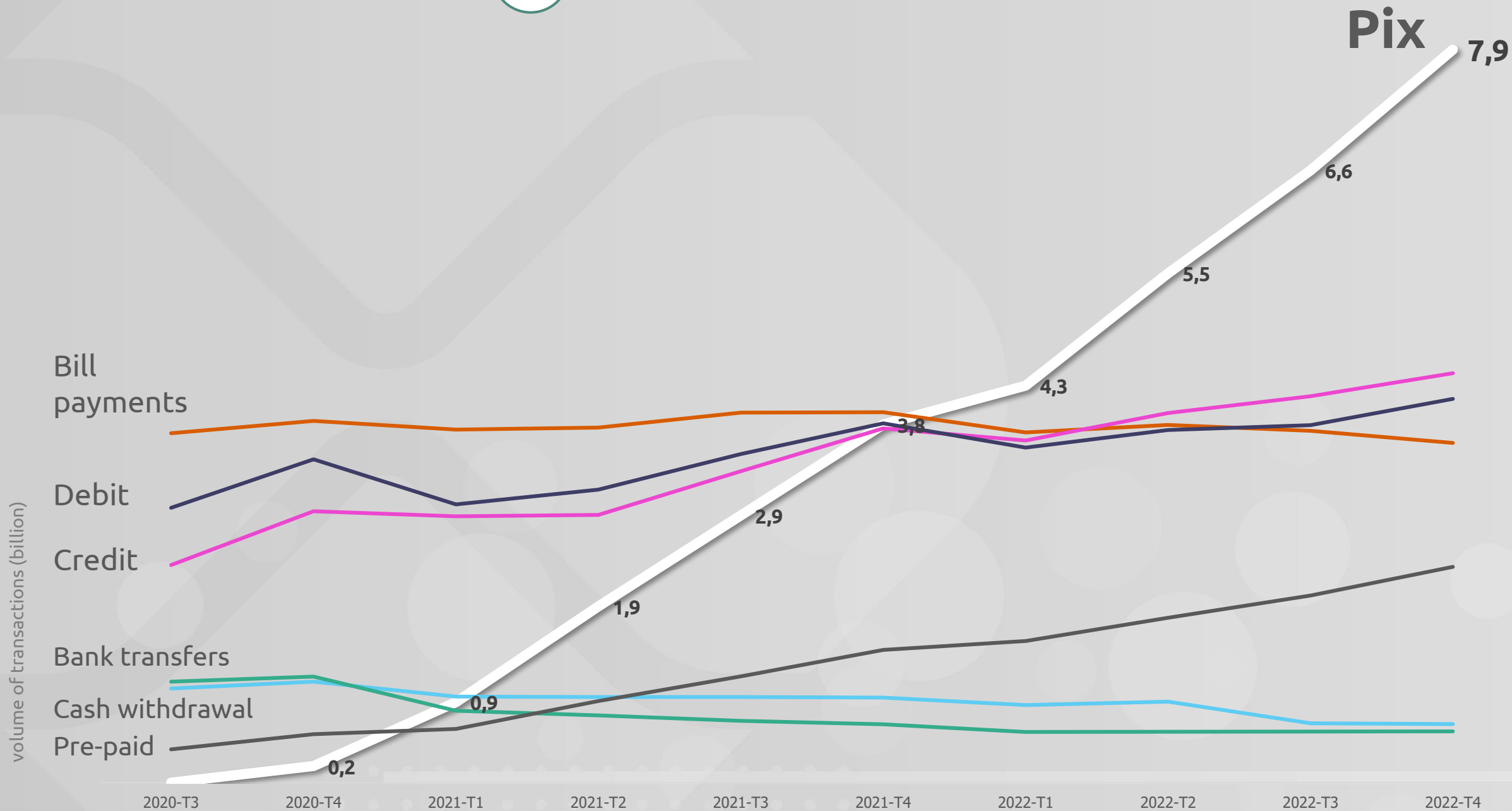
139mi individuals

79%
companies
with relation
in financial
system

13mi companies

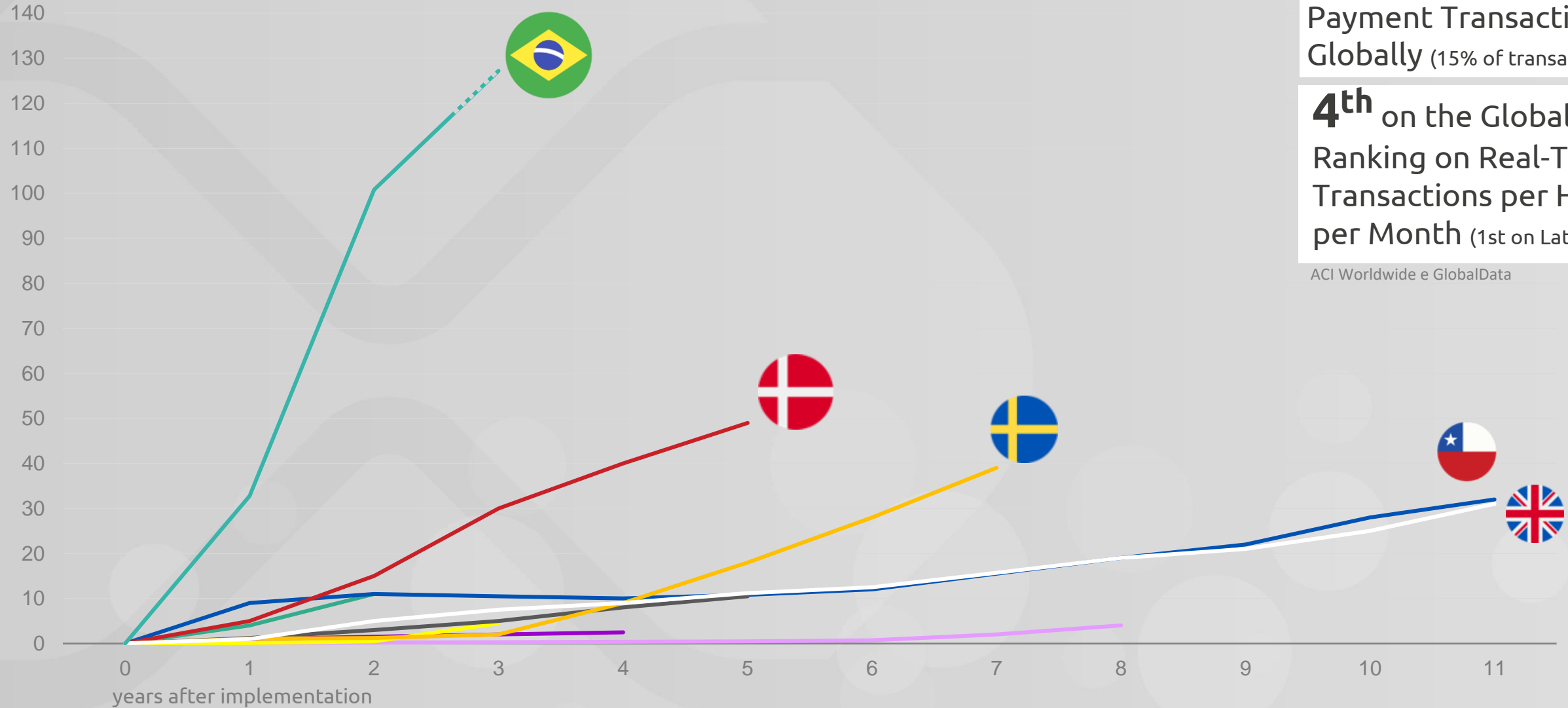
users (million)

Domestic perspective **3**



International perspective **4**

Number of transactions per capita



In 2022:
Top 2 Real-Time Payment Transactions Globally (15% of transactions)

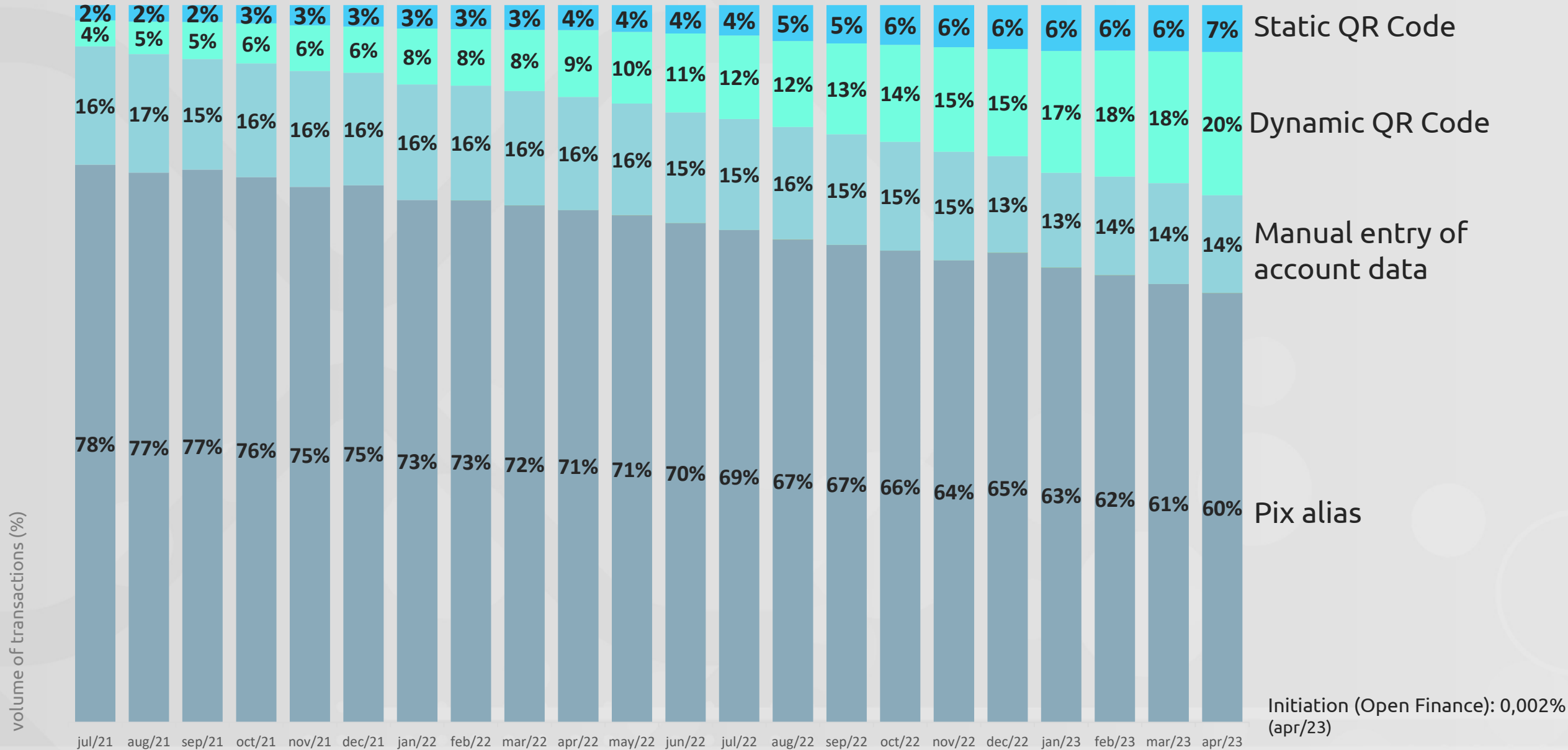
4th on the Global Ranking on Real-Time Transactions per Head per Month (1st on Latam)

ACI Worldwide e GlobalData

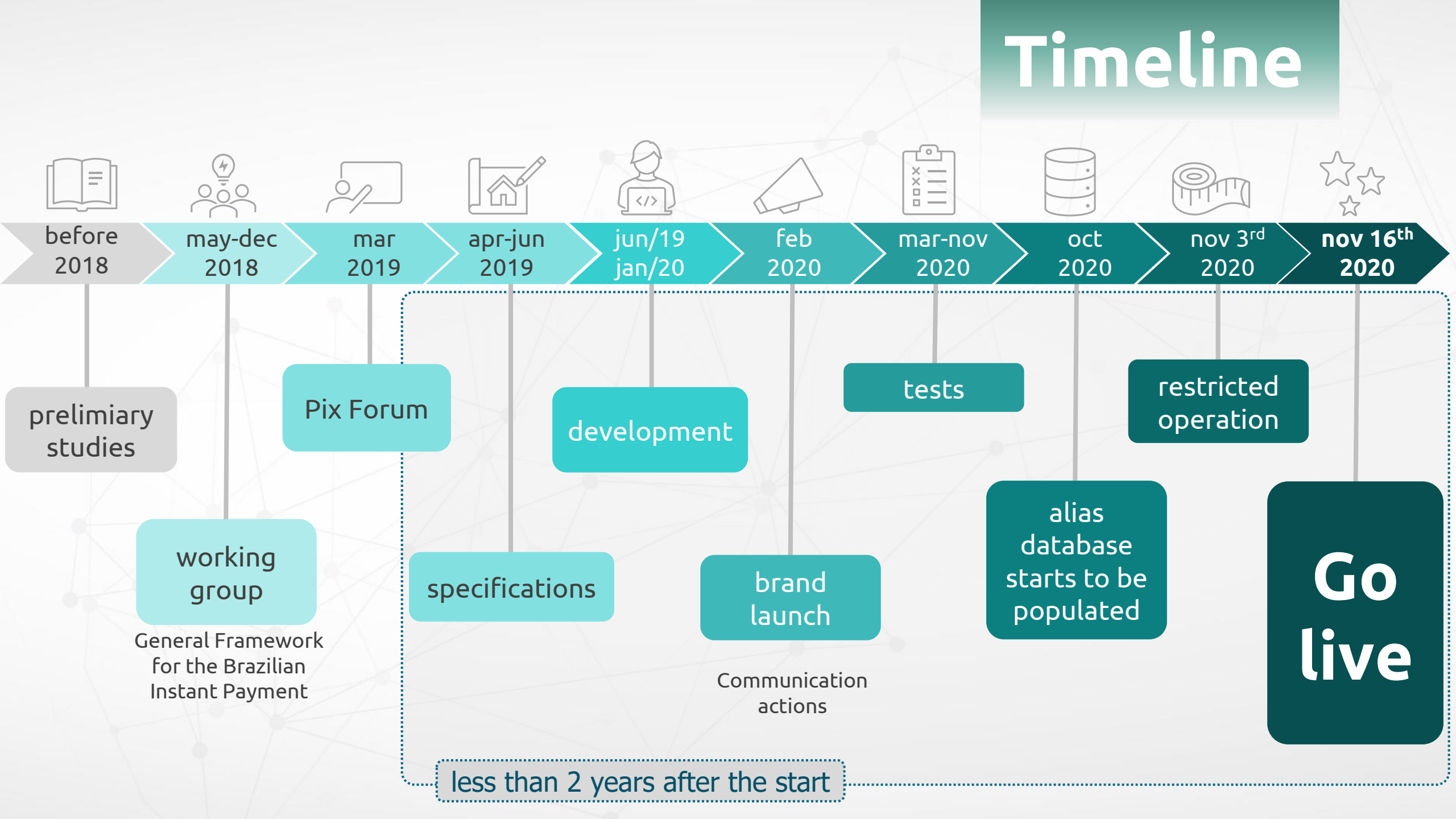
Nigeria Australia Chile Denmark Mexico India Singapore Sweden UK Brazil*

Source: Bech, Hancock e Zhang (2020) e BCB (for Brazil) *For Brazil, projected data from may/2023

Initiation 5



Timeline



before 2018

may-dec 2018

mar 2019

apr-jun 2019

jun/19 jan/20

feb 2020

mar-nov 2020

oct 2020

nov 3rd 2020

nov 16th 2020

preliminary studies

Pix Forum

development

tests

restricted operation

working group

General Framework for the Brazilian Instant Payment

specifications

brand launch

Communication actions

alias database starts to be populated

Go live

less than 2 years after the start

Features developed after launch



phone book integration (march/2021)



due billings (july/2021)



mandatory scheduled transactions (september/2021)



initiator - link with Open Finance (october/2021)



precautionary block (november/2021)



Special Refund Mechanism (november/2021)



withdrawal of cash (november/2021)



security improvements (permanent agenda)

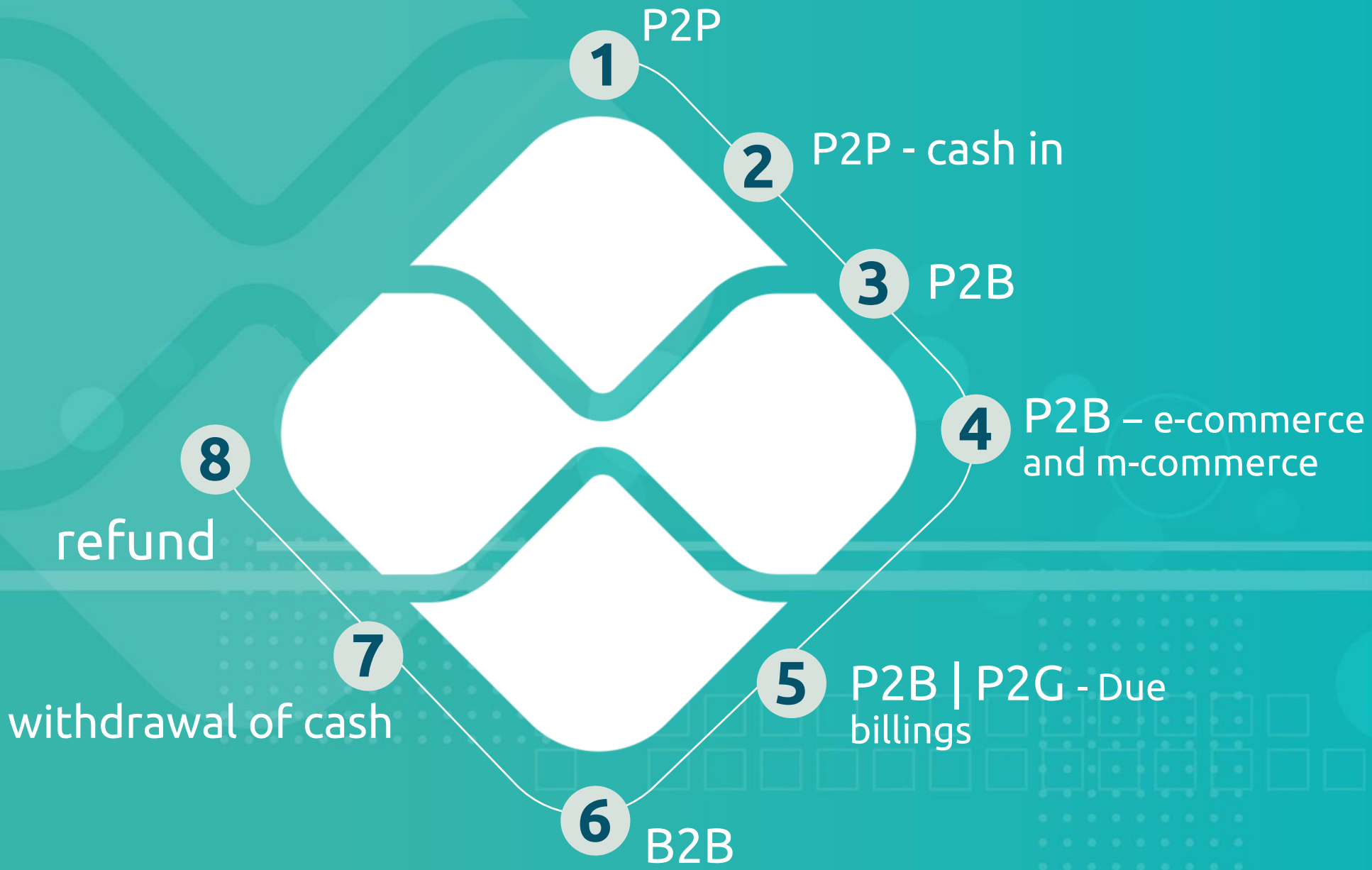
- Why
- How to prioritize
- Development
- Launch strategy

Working on new features



FULLY ADOPTED

10



use cases

P2P Pix alias

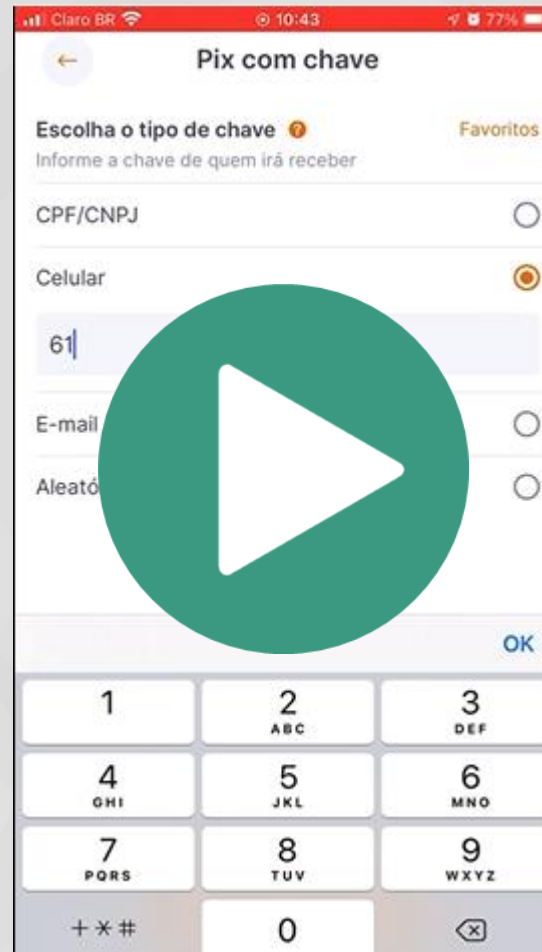
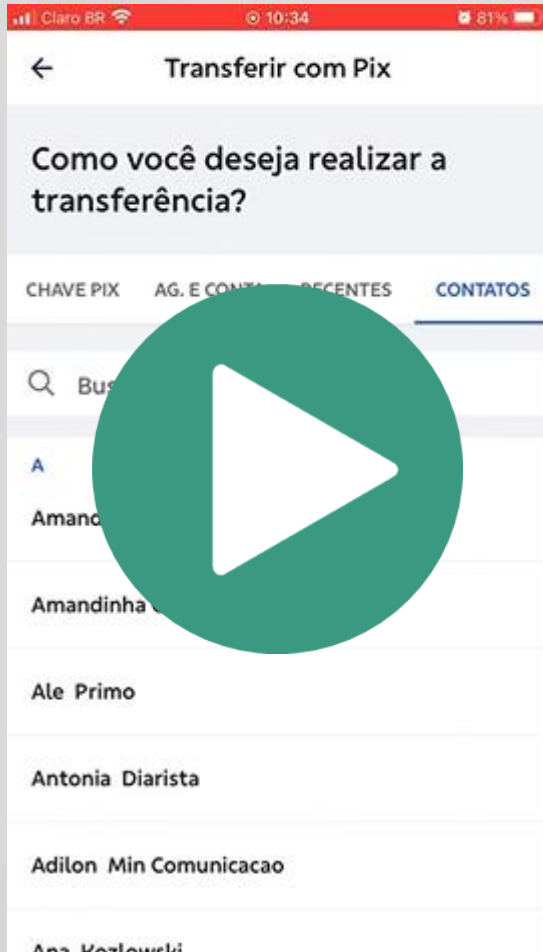
1



92,6% of transactions are
up to **R\$ 200** (USD 40)

P2P

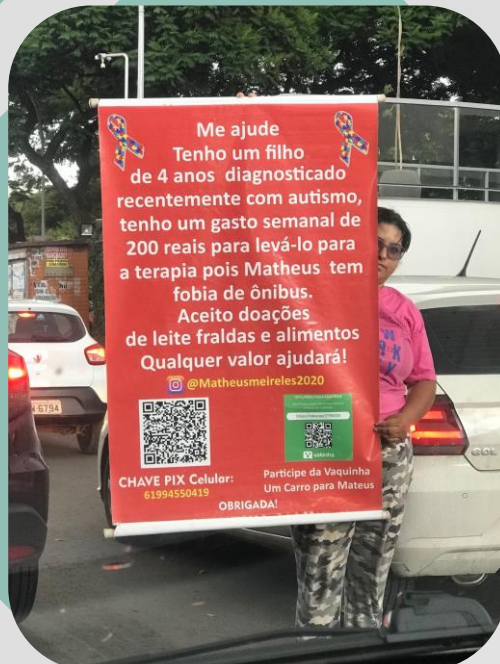
1



A taste of real life examples

P2P Static QR Code

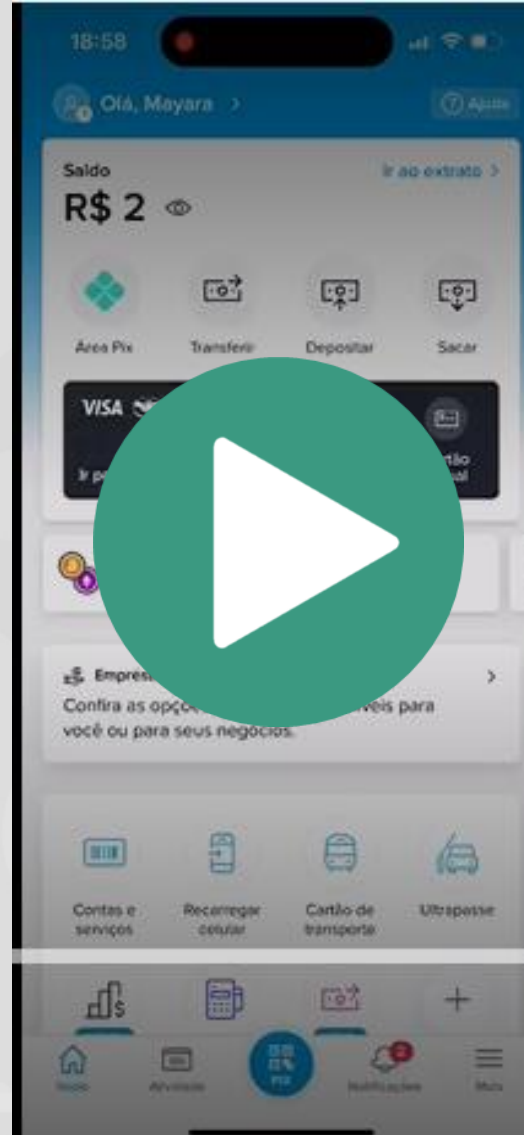
1



P2P - Cash in

2

Cash in through PISP



A taste of real life examples



Micro & small business



liberal professionals



physical stores



e-commerce

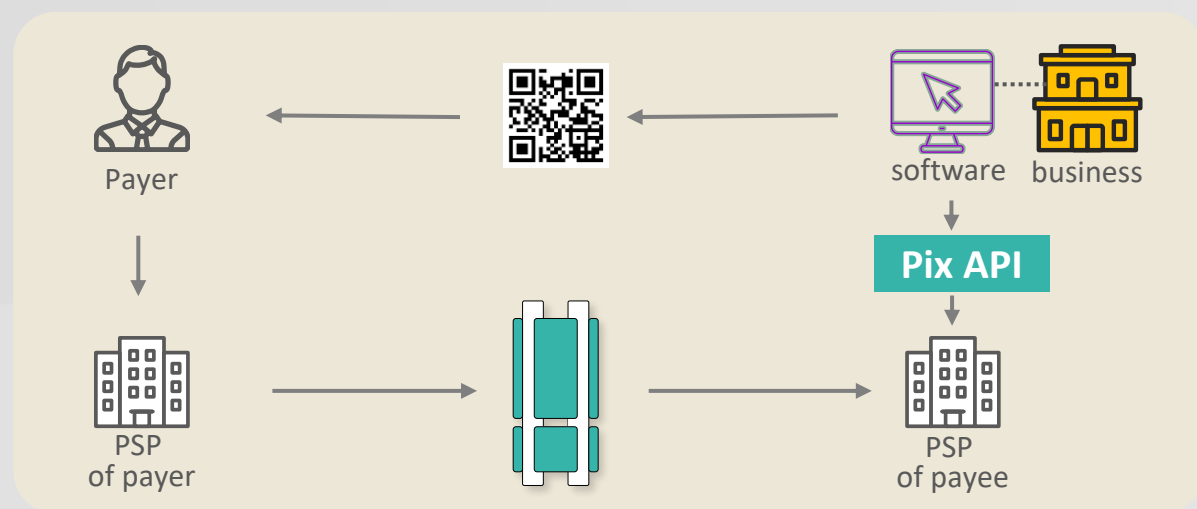


m-commerce

All types of businesses

P2B What's needed

3



Micro & small
business



liberal
professionals



physical
stores



e-commerce



m-commerce

- Relationship with a PSP
- Banking apps

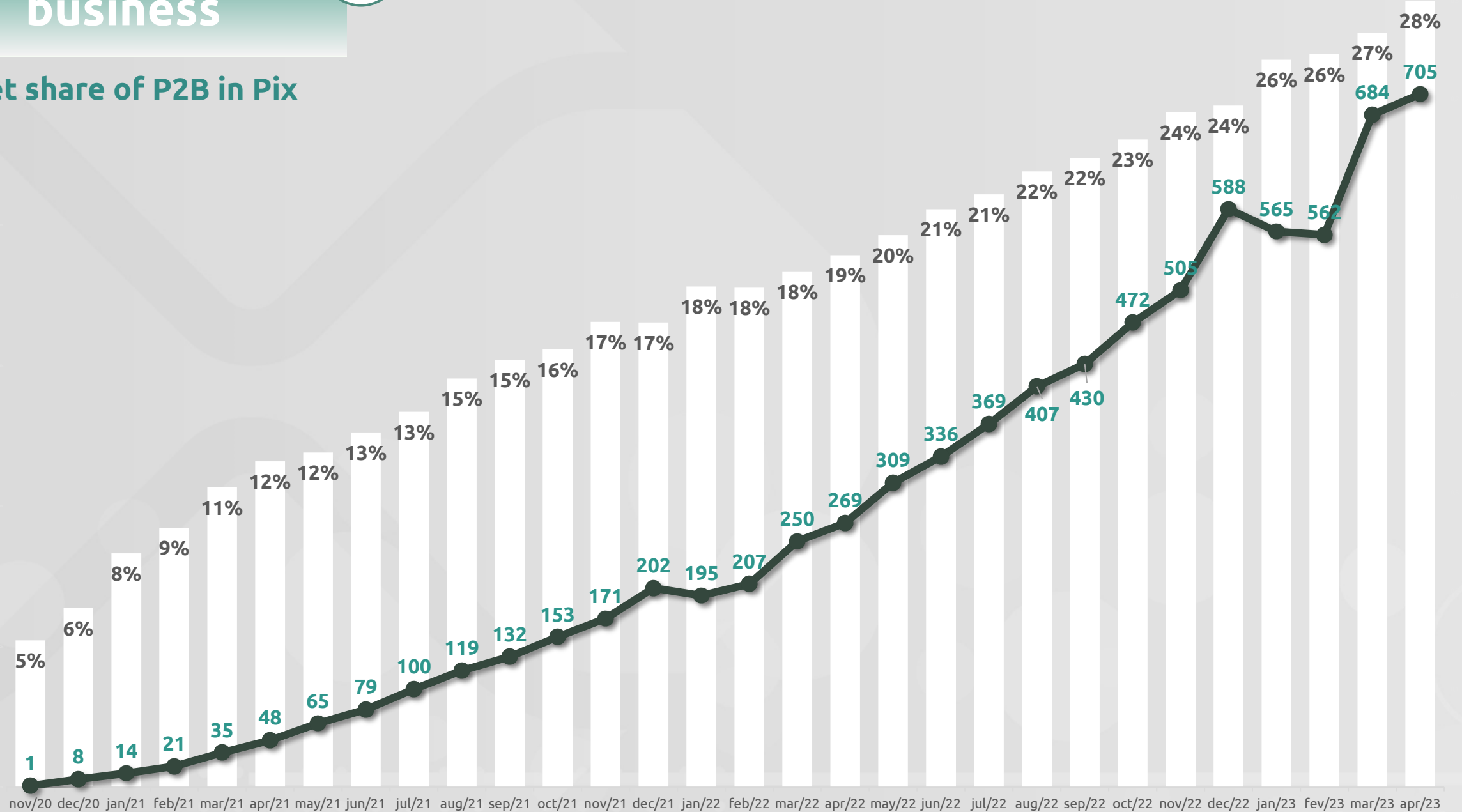
- Relationship with a PSP
- Checkout solutions with Pix integration (Standardized APIs)

Adoption by business

3

market share of P2B in Pix

■ volume of transactions P2B (million)
■ % of transactions P2B / total transactions



P2B Static QR Code

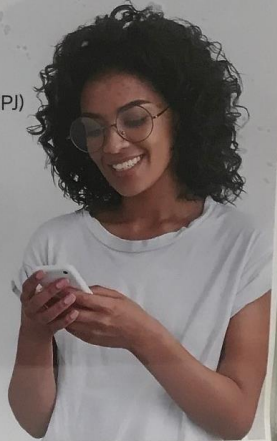
3

PAGAMENTO
FÁCIL E RÁPIDO?
AQUI, VOCÊ PODE!



06.160.688/0001-53 (CNPJ)
CBV Centro Brasileiro da
Visão LTDA

Dados bancários:
Sicoob (756)
Agência: 5004
Conta Corrente: 1944-5



Pagamento - QR Code Estático



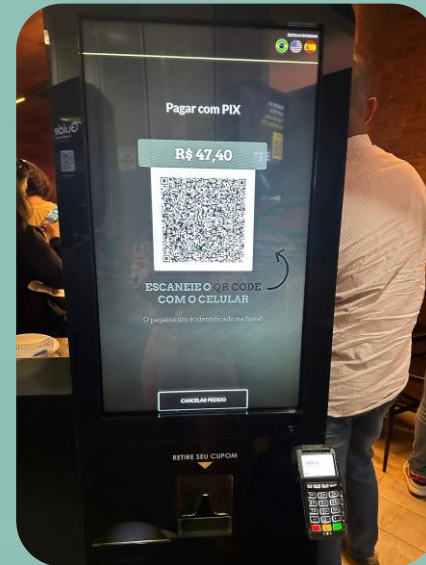
P2B Static QR Code

3



P2B Dinamic QR Code

3



P2B QR Code

3



A taste of real life examples

RENNER

PAGAMENTO

- Cartão de crédito
- Cartão Renner
- Meu Cartão
- PIX 3% off exceto parceiros
- Cartão-Presente
- Boleto Bancário

PIX

Siga nossas dicas e faça um Pix!

- Clique em Finalizar Pedido para gerar o código QR de pagamento.
- Depois, é só fazer um Pix no app que você quiser.
- Pronto! Agora só esperar seu pedido chegar.

FINALIZAR PEDIDO



amazon.com.br

Finalizar a compra (1 item)

2 Seleccione um método de pagamento

Olá Mayara.
Agora você pode usar pontos Livelo
para comprar na Amazon.com.br.

Seus cartões de crédito

	Nome no cartão	Vencimento
<input type="radio"/>	(Crédito) Ourocard Mastercard Platinum Mayara T Yano Estilo terminando em 4234 Parcelas não disponíveis Por quê?	12/2026

+ Adicionar um cartão de crédito > A Amazon aceita várias bandeiras de cartão de crédito.

Boleto

- Vencimento em 1 dia útil. A data de entrega será alterada devido ao tempo de processamento do Boleto. Veja mais na próxima página.

Pix

 O código Pix gerado para o pagamento é válido por 30 minutos após a finalização do pedido.

Seu saldo disponível

 Insira um Cupom de desconto ou Vale-presente

Usar esta forma de pagamento

Pagamento

CPF do pagador

 Pix
 Aprovação imediata

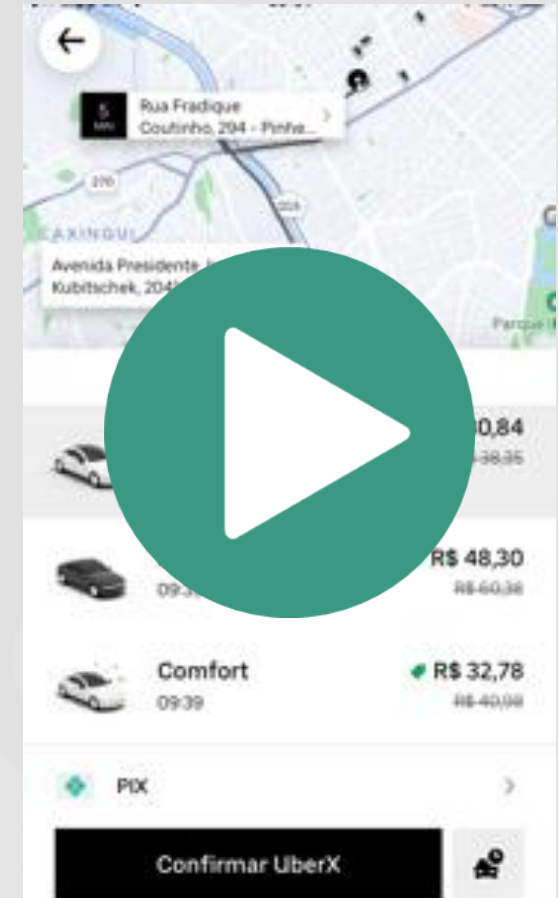
Recomendado

 Cartão de Crédito
 Até 3 vezes sem juros

 Boleto
 Aprovado em até 2 dias úteis

Pix - É simples e seguro

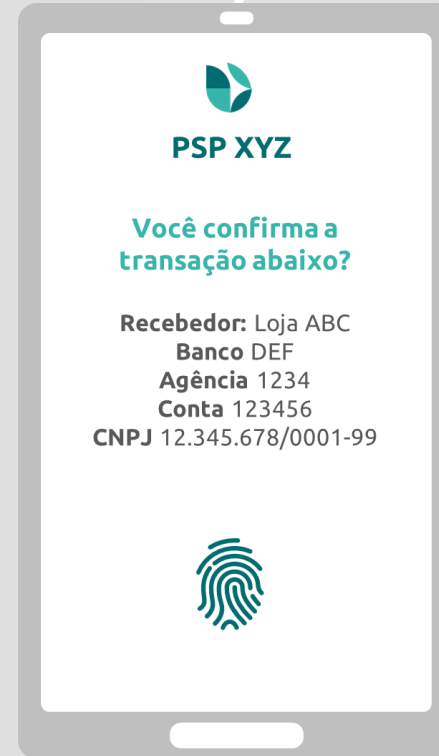
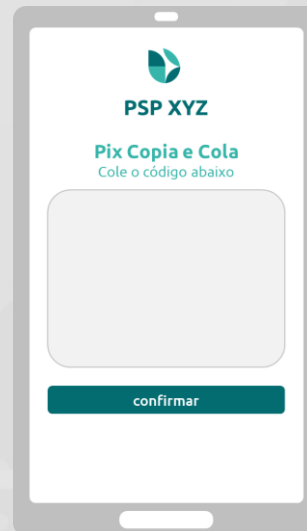
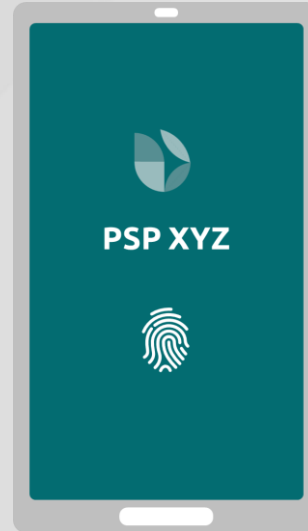
1. Finalize a compra para ser direcionado ao pagamento.
2. Acesse o aplicativo da sua instituição financeira, leia o QR Code ou copie e cole o link.
3. Confira as informações de pagamento e pronto!



P2B

4

E-commerce | m-commerce
dynamic QR Code | copy and paste



P2B PISP

4

1

Consent

The payer, in the Initiator environment, informs or confirms the Pix transaction information and provides his consent to initiate the payment transaction.

2

Authentication

The payer is redirected to the institution holding his account for authentication purposes.

3

Confirmation

The payer, in the account holder's environment, confirms the Pix transaction.

1

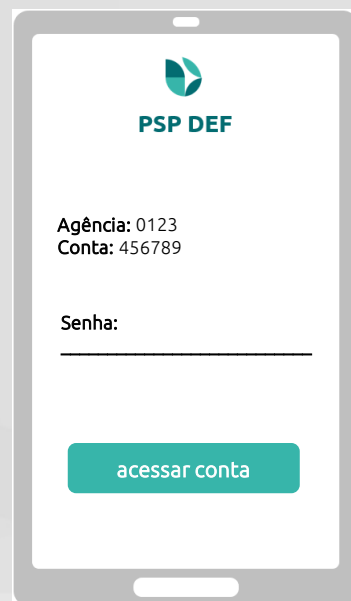
Consent



Redirect

2

Authentication

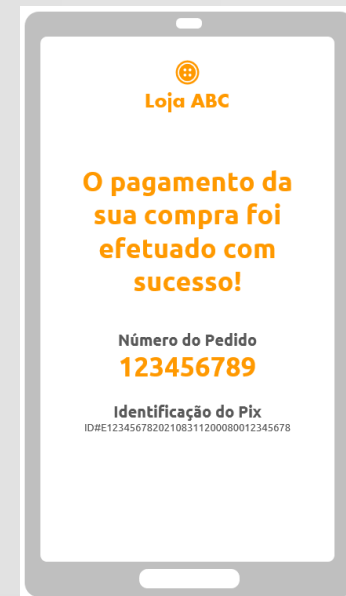


3

Confirmation



Redirect



Adoption by business

4

Pix in the e-commerce
(figures for March 2023)



93.2% of virtual stores accept Pix (64.4% in 2022 January)

2nd largest payment method in e-commerce



Lower costs and higher conversion

than boleto and debit cards



Benefits offered to customers

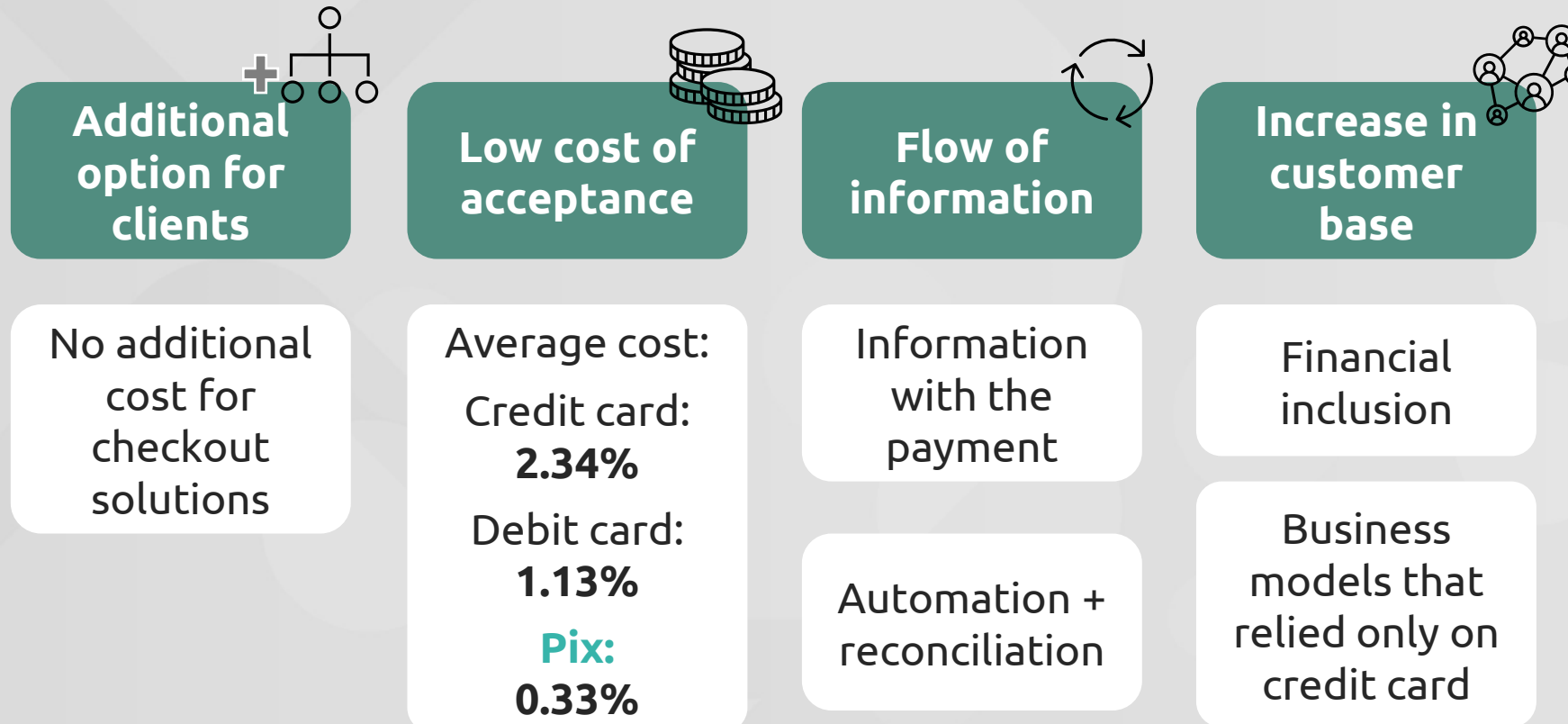
discounts (3.5% to 12%) and/or free shipping



BNPL

27.1% of acceptance

Safe payment method + fast funds



P2B | P2G

Due billings

5



Payer



Business

API Pix



PSP Payer

Pi scheduled for
01/07/2023



PSP business

P2B | P2G

Due billings

5



85800000004 6 54620432222 7 80071622276 1 74802042134 5



FUNDO DE GARANTIA DO TEMPO DE SERVIÇO
AUTENTICAÇÃO MECÂNICA

Documento de Arrecadação do eSocial

85800000004 6 54620432222 7 80071622276 1 74802042134 5

CPF: [REDACTED]
Número: 07.16.22276.7480204-2
Pagar até: 07/10/2022
Valor: 454,62

Pague com o PIX



Vencimento	Total a Pagar - R\$
11/10/2022	299,99

Cód. Débito Automático Nº da Conta Nº da Fatura Mês Referência

1121421171-7 00001121421171 00000287043389 09/2022

846400000028 999900801005 011214211713 922090433892



Pagar via Pix



RESERVADO AO FISCO 4A17.33E3.CB9E.6E3D.EA78.7016.5D7F.F49D

REFERENTE A	VENCIMENTO	VALOR A PAGAR
NOV/2022	25/11/2022	R\$ 224,45
Base de Cálculo (R\$):		R\$ 177,58
ICMS	185,72	R\$ 1,20
PASEP	0,65	R\$ 5,57
COFINS	185,72	
Mês/Ano	Consumo do Mês kWh	Consumo Médio kWh/dia
OUT/2022	280	9,33
SET/2022	286	8,93
AGO/2022	222	7,65
JUL/2022	273	9,10
JUN/2022	268	8,37
MAI/2022	268	8,93
ABR/2022	302	10,41
MAR/2022	299	9,34
FEV/2022	237	8,17
JAN/2022	297	9,00
DEZ/2021	235	8,39
NOV/2021	233	7,76

REVISÃO DE CONTAS VENCIDAS / DÉBITOS ANTERIORES

Para pagar esta fatura pelo PIX:



OUT/22 Band. Verde - NOV/22 Band. Verde. Informações Gerais
Tarifa vigente conforme Res Aneel nº 3.046, de 21/06/2022.
Redução alíquota ICMS conforme Lei Complementar 194/22
Base de cálculo reduzida nas componentes Distribuição, Transmissão e Encargos conf. art. 2º da Lei nº 194/22
Considerar nota fiscal quitada após débito em sua c/c.
O pagamento desta conta não quita débitos anteriores. Para estes, estão sujeitas penalidades legais vigentes (multas) e/ou atualização financeira (juros) baseadas no vencimento das mesmas.

RECEBA SUA FATURA DE ENERGIA POR E-MAIL DE FORMA FÁCIL, RÁPIDA E SEGURA.
ACESSE AGORA www.cemig.com.br

RECEBOSO DE DÉBITO VENCIMENTO 25/11/2022 TOTAL A PAGAR R\$ 224,45

REFERENTE A: NOV/2022 Nº DA INSTALAÇÃO: 3007559975

83650000002-8 24450138000-4 07797821911-6 00075599753-3

001-9 00190.00009 02874.902022 74701.808177 5 93460000129900

Local de pagamento: Intermidiado por: Vencimento: 10/05/2023

Pagável em qualquer banco. PjBank Pagamentos S.A. (18.191.228/0001-71) Agência / Código do Beneficiário: 2857-6 / 69000-7

Data do Documento: 24/04/2023 Nº do Documento: 160 Espécie Doc.: DM Aceite: N Data Processamento: 24/04/2023 Nosso Número: 28749020274701808

Uso do Banco: Caixa Espécie: R\$ Quantidade: Valor: Valor Documento: R\$ 1.299,00

Instruções (em de responsabilidade do Beneficiário):
Multa de R\$ 25,98 (2,00 %) após o vencimento.
Mora/Dia de 0,033 % após o vencimento.
Desconto de R\$ 99,00 até o vencimento.

PIX QR code

104

Autenticação Mecânica FICHA DE COMPENSAÇÃO

B2B Integration

6



Depends on
adaptations
in ERP
systems

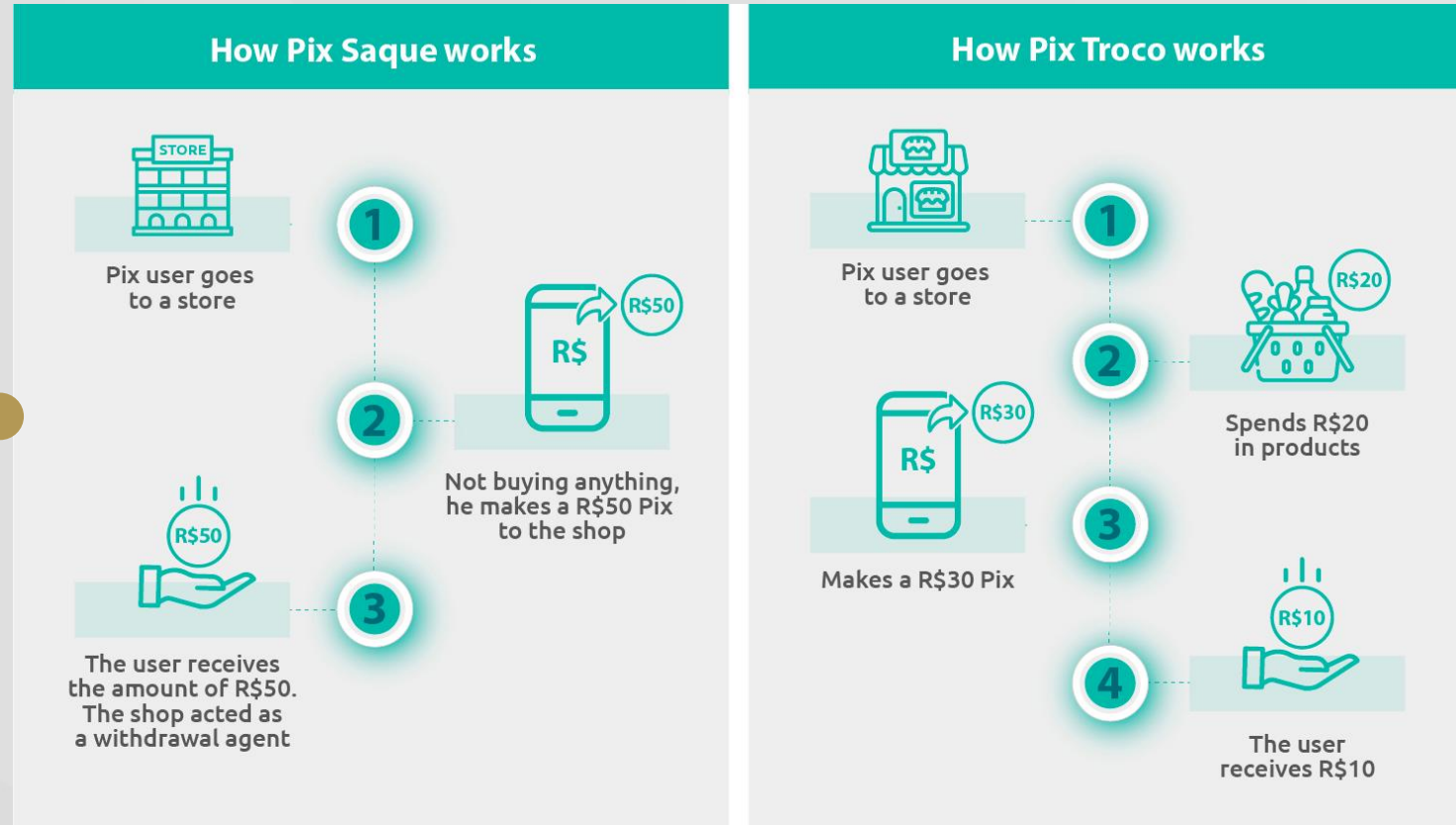
Different
limits for
different
employees

Integration
via file
exchange
(non-standard)
and Pix API
(standardized)

3% amount transactions (72mi)

38% financial value (R\$ 400 bi aprox. USD 80)

Withdrawal of cash 7



94,2% Shared ATM and correspondents

5,5% merchants

Refund

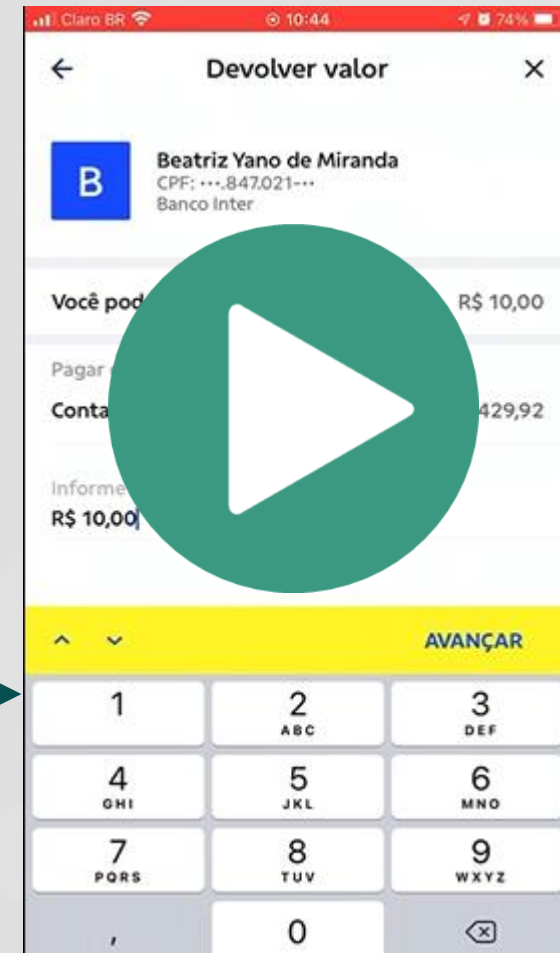
8

Cases

- Payee decision
- Operational failure
- Fraud

Rules

- Up to **90 days** from original transaction
- **Total or partial** amount
Multiple partial returns of the same transaction are permitted, until the total amount to be returned is reached



A woman with short dark hair, wearing a black sleeveless top, is smiling and looking down at a smartphone she is holding. She is standing behind a counter that has a QR code on it. The background is slightly blurred, showing what appears to be a retail or service environment.

+

security

Security
as a main
pillar
from scratch

Rapid adoption
on multiple use
cases can also be
explained by the
high level of **trust**
from users



BC

Definition of rules
(RegPix and Specific Safety Manual)

Pix monitoring

Supervision Institutions

**security
responsibilities**



PSP

Observance of Pix rules
(transaction rejection, mechanisms, technological aspects – API and QR Codes, scanning attack prevention, etc)

Customer risk assessment and definition of compatible limits

Secure account opening process

Specific security solutions in the interfaces

User Authentication

Own anti-fraud engines, merit analysis of concrete situation



Basics of security

Authentication

Safe Network and
Criptography

Traceability

KYC / AML / CFT



Additional mechanisms

Centralized fraud data-base

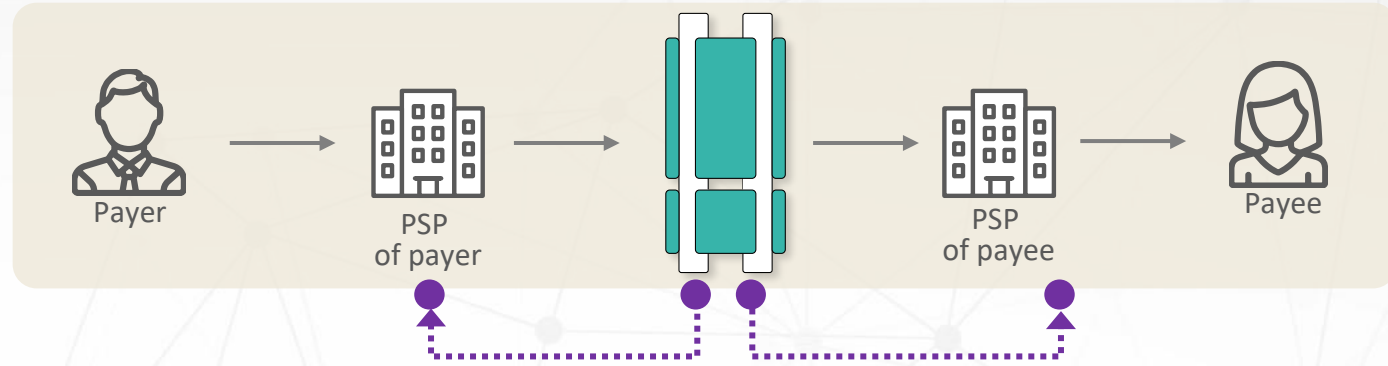
Extra time to settle
suspicious transactions

Transactional limits according
to user risk profile

Precautionary block

Special refund mechanism

Centralized antifraud database



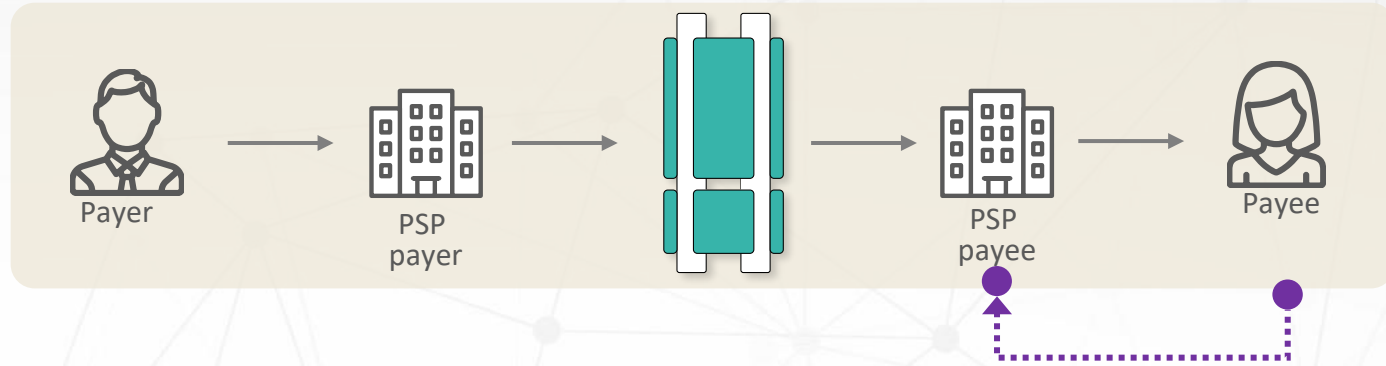
Data base of **fraud transactions**

Operated by the **Central Bank**, with PSPs feeding with information

Information **shared** with all PSPs

PSPs **must use information** in antifraude tools (antifraude engine, extra time rule, reject transactions)

Precautionary block



Preventive blocking

Preventive blocking of funds from the individual beneficiary (by the payee's PSP):

- at credit time
- for up to 72 hours
- in case of suspected fraud

Robust analysis

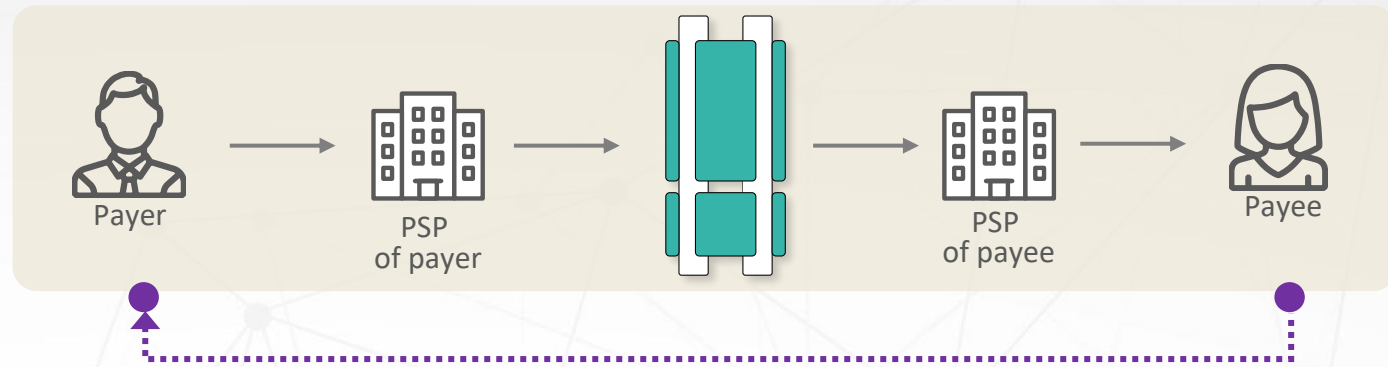
more robust analysis:
increasing the likelihood of resource recovery

Immediate notification

The institution shall immediately notify the payee



Special Refund Mechanism



Easy

Standardized procedures to refunds

Procedures

- **Payer:** contact PSP and ask for refund
- **PSP of Payer:** open the infraction report
- **PSP of Payee:** block funds
- **Both PSPs:** analyze the request
- **PSP of Payee:** request refund
- **PSP of Payee:** send back the funds

Important aspect

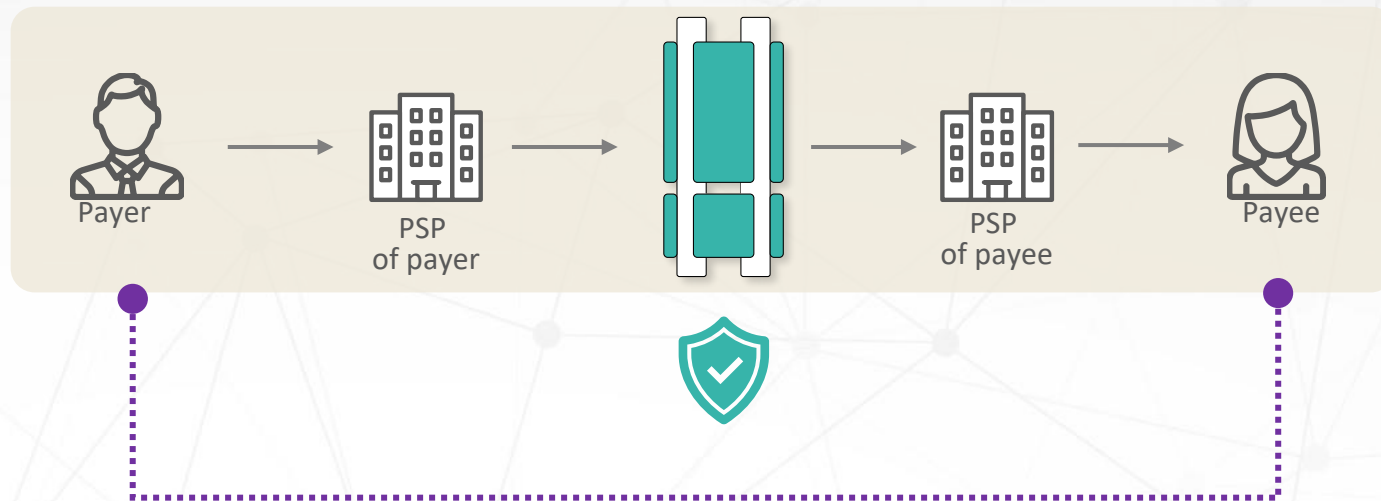
if not enough balance, PSPs show make partial blocks and refunds

Not scope

User's mistake
Commercial disagreement
Payer is a good faith third party



Fraud cases



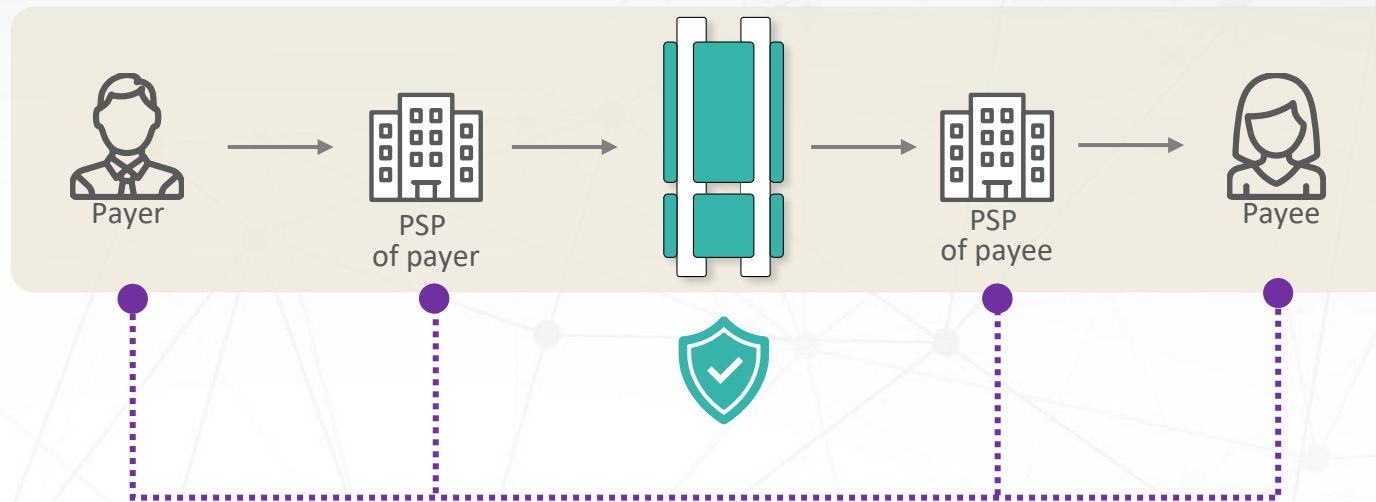
Frauds occur externaly Pix infrastructure

Most common

- phishing
- Fraudulent accounts
- Mule accounts
- Coercion

Infraction report – fraud cases
0,0069% - aprox. 7 in a 100000 transactions

Prevention



- Better subsidies
- Continuous improvement in anti-fraud processes
- Education of the population



Ongoing improvements

More accurate infraction report

- Cause of fraud (scam, account invasion, coercion, etc.)
- Account receiving funds (mule account, application fraud – account opened with false documents.)

More qualified information for anti-fraud analysis

- Reformulation of the data presented
- Longer period

to
define

Special Refund Mechanism (improvements)

- Channel integrated into the app (recommended)
- ANS between user complaint and opening of infraction report
- More robust monitoring of participants

to
define

Special Refund Mechanism 2.0 (triangulation)

Incidents and other actions

Changes to the security information query

Today

Account information

- participating ISPB
- Agency Number
- Account number
- account type
- Account opening date
- Name/Company name/Finance name
- User's CPF/CNPJ
- Key creation date
- Date of registration of the key in the participant
- Portability date/open claim

Security information

- # settlements
- # open infraction reports
- # confirmed infraction reports
- # open infraction reports on rejected transactions
- By key, CPF/CNPJ and account
- **3 days, 30 days and 6 months**

Reformulated

Account information

Security information

- # settlements as receiver
- # confirmed infraction reports, by type of fraud (mule account, application fraud, others)
- # total confirmed infraction reports
- # total rejected infraction reports
- # distinct participants who confirmed infraction reports
- Total value of confirmed infraction reports
- # infraction reports in analysis
- # different participants who have infraction reports under analysis
- # user-opened accounts with linked Pix keys
- By key, CPF/CNPJ
- **90 days, 1 year and 5 years**



**keep building
trust
of users**



**security as a
continuos
process**



Mindset of continuous innovation

- ◆ New technologies
- ◆ Needs of our society



Other products



Pix automatic



Pix international



Pix Request to Pay NG



Pix BNPL



Other ways to initiate a Pix

(NFC, Bluetooth etc)



DVP with assets



...





Thank you!!!

[Frequent Asked Questions](https://www.bcb.gov.br/en/financialstability/pix_en)

https://www.bcb.gov.br/en/financialstability/pix_en



pix