

Dash
Meetup





MONEY & MONETARY POLICY

BITCOIN & BLOCKCHAIN

DASH - DIGITAL CASH

LAW & TAXATION





INTRODUCTION



“It is time to take
cryptocurrency
seriously”

(Christine Lagarde - IWF)

Development of digital assets and currencies

+650% in
365 days

1500 projects
€300 million

2x more capital in ICOs
than in VC in July 2017

Cryptocurrencies and
blockchains are
increasingly important



INTRODUCTION

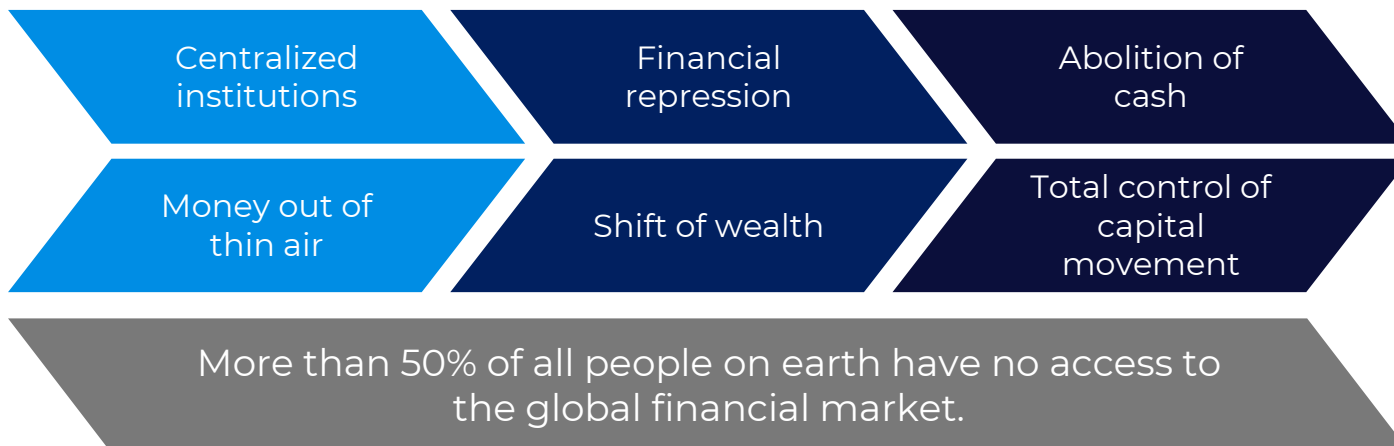
It's not about drugs
and money
laundering.

It's about global
financial freedom.

Reason for the invention of digital currencies

“Helicopter money could prove a
valuable tool”
(Ben Bernanke- FED)

“If they did (understand our monetary
system), I believe there would be a
revolution before tomorrow morning”
(Henry Ford- Ford)





MONEY & MONETARY POLICY

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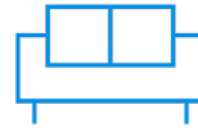


MONEY & MONETARY POLICY

Why do we need money?



Some produce food



Some produce
furniture



Others provide
services

Not everyone needs all
goods and services at all
times.

Money is a medium of
exchange for goods and
services.

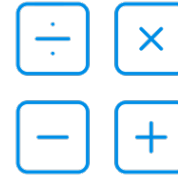


MONEY & MONETARY POLICY

What are the
fundamental
characteristics of money?



It is a medium of
exchange



It used for
calculations



It works as a store of
value

With money we can trade today and tomorrow.

What kinds of money
exist or have existed?

From commodity money to coinage



Commodity money /
pecunia pecus (lat.) =
cattle

- salt
- fur
- sea shell



Commodity money /
metal

- bronze
- silver
- gold



Coinage (metal)

- homogeneous
- standardized
- 7th century

Durability, scarcity and divisibility asserted themselves
over time.

What kinds of money
exist or have existed?

From commodity money to coinage



Bill of exchange

- bill of exchange/
deposit
- tied to one person



Bank note

- backed by gold
- issued by banks
- 17th – 19th century



Book money

- immaterial in books
- in accounts
- on computers

Exchanging became easier and more comfortable.



MONEY & MONETARY POLICY

How to transmit money?

Sending money is easier than ever before



We are dependent on a huge industry and many big corporations.



MONEY & MONETARY POLICY

What exactly are cash and book money?

There is 5x more book money than cash (2014)



Book money

- money in bank accounts and saving accounts
- not backed by anything (gold)
- value is derived from trust
- comes into existence through credit
- 1% reserve at the ECB
- no requirement to exchange against cash
- not legal tender

Cash

- legal tender
- notes and coins
- not backed by anything (gold)
- value is derived from trust
- central bank monopoly

The history of money from the 19th to the 20th century



19th to 20th century gold standard

- 1 \$ = 1/20 gold
- 1 P = 1/4 gold
- clearly defined amount of gold
- gold as global currency



1921 / 1945 gold exchanges / Bretton Woods

- beginning of WWI
- governments need more money
- money supply increase
- 1 \$ = 1/35 Gold



1971 closing of the gold window

- end of Bretton Woods and every form of gold standard
- \$1300 per ounce of gold today

Inflation was used to try to prevent crises. The price of gold has therefore increased dramatically.

How is money created?

Creation of book money



Emma

- needs \$300,000 in credit for a new house
- credit is backed by the physical house



Bank

- issues the credit and demands interest (book money is created)
- bank borrows the money from the central bank
- 1% reserve is needed



Central bank

- issues the credit to the bank and demands interest (1% reserve is needed)

A bank needs \$3,000 in reserves to issue \$300,000 in credit (book money).

A man walks into a supermarket...

Man: I'd like to have 100 eggs.

Merchant: I have no eggs but I can borrow 1 egg from the farmer so that I can give you 100 eggs and you give me 103 eggs back.

Man: But where can I get the 3 additional eggs?

Merchant: You can borrow them from me or another merchant.





MONEY & MONETARY POLICY

What are the arguments
for our current monetary
system?

Arguments for fiat currency



Price stability

- monetary supply is influenced by interest rates
- inflation and deflation are controllable

Deutsche Mark had
deprecation of 80%

US Dollar has
deprecation of 95%



Economic growth

- cheap credit (inflation) makes it easier to invest
- continuous growth

Markets are
overvalued

States, customers
and corporations
suffer under a debt
overload



Security / Trust

- states and banks are trustworthy and have their citizens' best interests in mind

Hyperinflation

Numerous lawsuits
against fraudulent
banks



MONEY & MONETARY POLICY

What is the Cantillon effect?

Slow redistribution of wealth



Emma owns €10



Irene owns €10



Bernd owns €10



Price formation in alignment with money supply of €30



Bernd increases the money supply to €40



Price formation adopts to €40 money supply



All buy in the same economical environment



Price stays as if the money supply was still €30



Emma and Irene are worse off than before

Bernd has gained an advantage over Emma and Irene by increasing the money supply.



MONEY & MONETARY POLICY

Summary

Our current fiat system



Our current monetary system is based on debt

- money is created by issuing credit
- to pay back credit, more credit is needed



Centralized institutions (banks) profit from issuing credit

- profit through interest payments
- Collateral (Emma's house)



Long time disadvantages for non-banks

- debt and debt based dependence
- loss of purchasing power as a result of inflation
- slow redistribution of wealth

Is this system just, and is there an alternative?



MONEY & MONETARY
POLICY

Discussion

What are the characteristics of
sound money?

Dash

Roadshow





MONEY & MONETARY POLICY

BITCOIN & BLOCKCHAIN

DASH - DIGITAL CASH

LAW & TAXATION





BITCOIN & BLOCKCHAIN

Why was Bitcoin
created?

“The Times 03/Jan/2009
Chancellor on brink of second
bailout for banks”

Satoshi Nakamoto in the Bitcoin genesis block



BITCOIN & BLOCKCHAIN

How was Bitcoin created?

The mythical “Satoshi Nakamoto”



Nov 2008
Whitepaper

- Satoshi Nakamoto publishes the Bitcoin whitepaper



Jan 2009
Version 1

- Satoshi Nakamoto creates the first version of Bitcoin



Apr 2011
SN disappears

- Nakamoto says that he has other things to do

Nobody knows who or what is behind the name Satoshi Nakamoto.



BITCOIN & BLOCKCHAIN

What exactly is Bitcoin?



Scarce coin supply
(21 m)



Value is set by supply &
demand



Decentralized
structure via
blockchain



Peer-to-peer
transactions



Transferred through
communication
technology



BITCOIN & BLOCKCHAIN

How are bitcoins managed?

Keys & wallets – accounts & banks



Public key

- address for incoming BTC transactions (account number)
- can be shared
- is publicly visible
- shows the balance



Private key

- one private key exists for each public key
- the private key is needed to sign transactions
- no transaction without signatures
- should be kept secret



Wallets

- digital wallet
- for smartphone, PC or paper
- manages public and private Keys
- backups are very important



BITCOIN & BLOCKCHAIN

How are public keys
displayed?

26-35 alphanumeric characters as a QR code

13Byi2i7WtZ8pHYR4FBKKWdV2NTfLkCicW



QR codes improve the usability



BITCOIN & BLOCKCHAIN

How does a Bitcoin transaction work?



Irene owns BTC

- the amount can be seen with her public key
- she manages her keys in a mobile wallet



Irene sends BTC

- she scans a public key with her camera
- her wallet reads the public key
- Irene confirms the transaction with her wallet
- the wallet signs the transaction with the private key



Bernd receives BTC

- the amount can now be seen at his public key



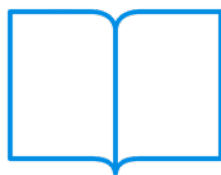
BITCOIN & BLOCKCHAIN

How does Bitcoin store data?

All transactions are written to the blockchain

Transaction 1

Irene -> Bernd
Bernd -> Emma
Emma -> Irene



Transactions are written into blocks

Transaction 2

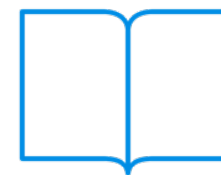
Bernd -> Irene
Emma -> Irene
Irene -> Bernd



A new block is created every 10 minutes and linked to the last one

Transaction 3

Emma -> Bernd
Irene -> Emma
Bernd -> Irene



New blocks are validated if they are in line with the other blocks

The blockchain is a time-based digital ledger.



BITCOIN & BLOCKCHAIN

Who runs the blockchain?

Nodes & miners provide services



Nodes

- every node stores the whole blockchain
- incoming transactions are validated



Miners

- they all try to solve a mathematical problem
- new blocks are proposed
- the first one to solve the problem can write the new block
- the creator of a new block is paid with a block reward



Block reward

- incentivizes mining
- is a combination of new coins and transaction fees



BITCOIN & BLOCKCHAIN

Blockchain summary

A secure and decentralized ledger

- Blockchain = a chain consisting of blocks that are filled with data
- The place where all transactions are recorded
- Transactions are compressed into blocks
- A complete block gets added to the blockchain
- Blocks can't be changed after they are created
- Decentralized storage
- Fraudulent behavior is not recommended because it is not rewarded (block rewards)

More than 50% of the hash rate is necessary to manipulate the network.



BITCOIN & BLOCKCHAIN

Who can participate?

Bitcoin is open source and public

- > Everybody can participate in the discussion and the development
- > Everybody can run a node
- > Everybody can mine
- > Everybody can use Bitcoin

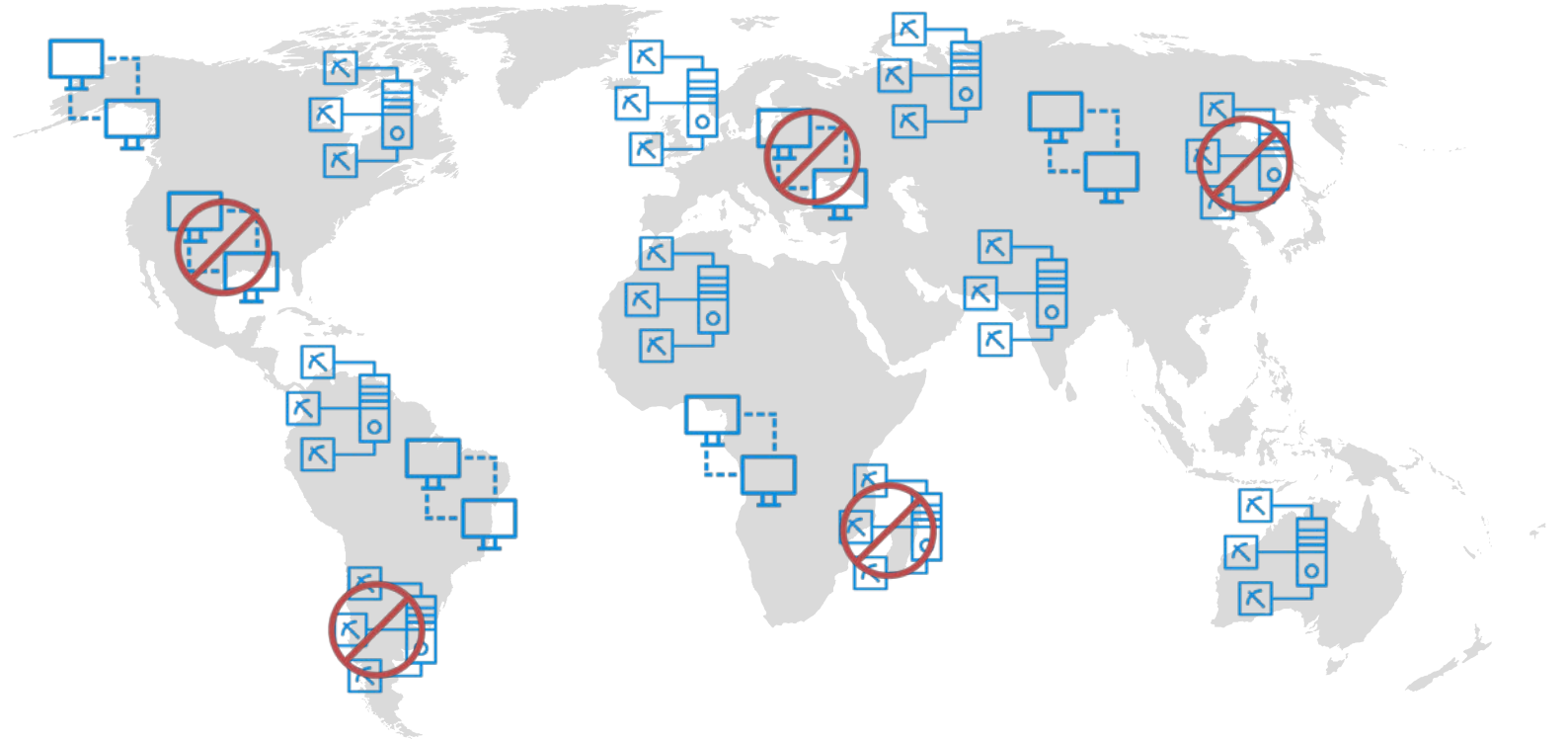
The necessary knowledge is readily available on the internet and in every language.



BITCOIN & BLOCKCHAIN

Why is this system so secure?

The mixture of decentralization and democracy



It's impossible to shut Bitcoin down.



BITCOIN & BLOCKCHAIN

Summary

Bitcoin is:



A scarce digital good that can be sent through communication channels (digital gold)

- maximum supply of 21 million Coins
- tradeable and divisible



Decentralized organization and nearly impossible to manipulate

- everybody can run a node
- in 2015, over 50x of the processing power of Google was used to secure Bitcoin



Independent from states and other institutions

- Bitcoin works everywhere where energy and internet are available
- transactions know no border
- no third parties are necessary

Is this system just, and is it an alternative?



BITCOIN & BLOCKCHAIN

Discussion

Can Bitcoin be a useful addition to our financial system?

Dash

Roadshow





MONEY & MONETARY POLICY

BITCOIN & BLOCKCHAIN

DASH - DIGITAL CASH

LAW & TAXATION





DASH - DIGITAL CASH

Summary

Our current fiat system

- > Our current financial system is based on debt
- > Centralized institutions (banks) profit from issuing credit
- > Long time disadvantages for non-banks

Bitcoin is:

- > A scarce digital good that can be send through communication channels (digital gold)
- > Decentralized structure and nearly impossible to manipulate
- > Independent from states and other institutions



DASH - DIGITAL CASH

Is Bitcoin the solution to the unfairness of our financial system?

Bitcoin has different challenges to face



Scaling

- the system is often congested
- high fees and long confirmation times are sometimes a problem
- Different solutions have been implemented (forks)



Governance

- decision making is rather slow
- debate about scaling has been ongoing for years
- no clear direction



Pseudonymity

- Bitcoin transactions are publicly visible
- anonymization requires third parties (coin mixers)



DASH - DIGITAL CASH

What's the difference between Bitcoin and Dash?

Comparison BTC & DASH



Speed	10 / > 10 minutes	< 2 seconds
Fees	€0.1 – 4	< €0.001 – 0.01
Privacy	pseudonymous	anonymous
Governance	No	Yes
Miner	100% rewards	45% rewards
Nodes/MN	No rewards	45% rewards
Budget	No	10% rewards



Dash has solved the problems that Bitcoin is struggling with and represents the first digital currency that can be used as digital cash.





DASH - DIGITAL CASH

How was Dash created?

Dash is the evolutionary next step



Dash was created by Evan Duffield in 2014 after his ideas were rejected by the Bitcoin community.



Evan Duffield

The vision: Digital Cash that can be used for daily transactions

Supply

Max: 18,900,000 DASH
Current: 8,132,559 DASH

Blocks

Block size: 2 MB
Block time: 2.5 minutes

Network

Hash rate: 2 PH/s
Masternodes: 4,700



DASH - DIGITAL CASH

Why is Dash digital cash?

Transactions are instant and anonymous



- transactions are confirmed in 1.3 seconds
- masternodes lock transactions that use InstantSend
- effective against double spend

Ideal for the retail sector



- transactions are anonymized in a decentralized way
- Coin mixing through the masternode network (max. 8 rounds)

Dash protects the privacy of it's users

InstantSend and PrivateSend are both optional.



DASH - DIGITAL CASH

What are Masternodes?



Same functionality as full nodes (Bitcoin)



Facilitate services like InstantSend & PrivateSend



receive 45% block reward (PoSe)



Incentives facilitate scalability (on-chain)



Collateral of 1,000 Dash necessary



Important for governance

Masternodes have many advantages, and many projects have already copied the concept.



DASH - DIGITAL CASH

How does Dash solve the problems of governance?

DAO (decentralized autonomous organization)



Masternodes

- make on-chain scaling possible (400 MB)
- voting in the DGBB (Decentralized Governance By Blockchain)

45% block reward



Miner

- like Bitcoin
- X11 algorithm instead of SHA 256

45% block reward



Treasury

- budget of the Dash DAO
- financing of development, marketing, sales, education

10% block reward



DASH - DIGITAL CASH

Who can participate?

Dash is open source and public

- > Everybody can participate in the discussion about development
- > Everybody can run a node
- > Everybody can run a masternode
- > Everybody can mine
- > Everybody can use Dash
- > Everybody can create a budget proposal

The necessary knowledge is readily available in all languages.



DASH - DIGITAL CASH

How does the voting work?

DGBB (decentralized governance by blockchain)



DGBB is efficient, quick and highly goal oriented.



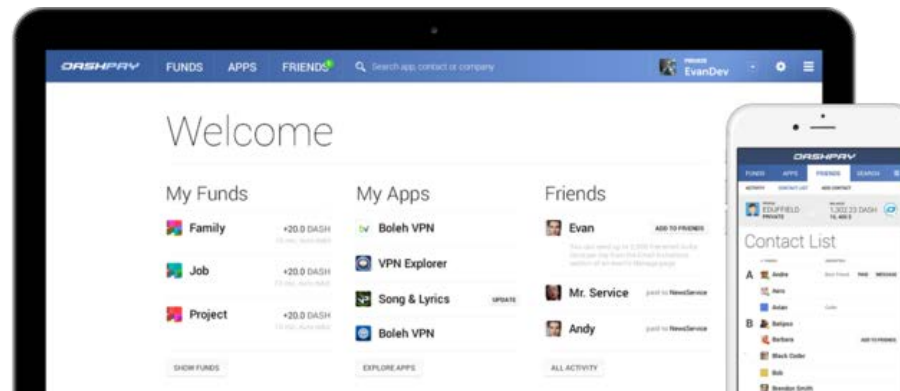
- Evolution

DASH - DIGITAL CASH

What does the future hold?



The goal is to simplify the use of digital cash so much that no prior technical knowledge is necessary.



- User accounts
- Recovery
- Standing orders
- Contact list
- ...



DASH - DIGITAL CASH

Discussion
& practical use

What questions are unanswered?

- > “Dash Wallet” in the Play/App Store
- > Install and open app
- > Write down the recovery seed (backup)
- > Create a PIN



Everybody gets €1 during the break.

Dash

Roadshow





MONEY & MONETARY POLICY

BITCOIN & BLOCKCHAIN

DASH - DIGITAL CASH

LAW & TAXATION





LAW & TAXATION

How are cryptocurrencies taxed?

Disclaimer

There are many open questions in regard to cryptocurrency taxation.

It is therefore possible that fiscal authorities and courts may rule differently than described here.

The speaker gives no guarantee that this information is correct, complete and up to date. It is always important to speak with an accountant or lawyer before starting a business related to cryptocurrencies.



LAW & TAXATION

How are cryptocurrencies taxed?

No clear guidelines

- On 02/27/2018, the German treasury department issued the first written announcement with regard to taxation (mostly relating to sales tax)
- Announcement from the treasury department of Hamburg dated 12/11/2017 (private income tax)
- More decisions are not currently available, but could be issued at any time
- Different cryptocurrencies may be taxed differently
- Cryptocurrencies are not legal tender
- In regards to income tax, they are seen as immaterial goods

More precedents are needed.



LAW & TAXATION

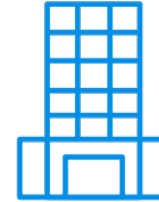
How is mining taxed?

Private / Corporate



Private

- additional income according to § 22 Nr. 3 EStG (income tax)
- not clear if only transaction fees or also block rewards



Corporate

- value of the new coins in comparison to production cost
- difference is seen as profit

No sales tax on mining.



LAW & TAXATION

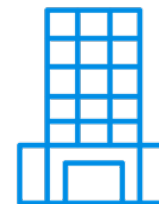
How are Dash masternodes taxed?

Private / Corporate



Private

- taxation unclear
- maybe not taxable, maybe taxable as additional income according to § 22 Nr. 3 EStG (income tax)
- our partners are still discussing the question



Corporate

- 1,000 Dash collateral are most likely business assets
- transformation of the collateral to business assets not taxable
- valuation at the current price or at the time of acquisition if this date is 3 years ago
- performance recognized in operating assets
- the transfer into private wealth is taxable (private holding period begins after the takeover)



LAW & TAXATION

How are budget proposals taxed?

Unfortunately, completely unclear

- > Most likely a commercial activity
- > Probably income tax or corporation tax
- > Most likely no sales tax because no recipients
- > Our partners are in dialogue with the financial authorities

Precedents are needed.



LAW & TAXATION

How are retail payments
taxed?

Like payments in legal tender

- > Sales tax based on the value at the time of the payment
- > Income tax based on the value at the time of the payment
- > Speculative gains or losses on hold

Comparatively high effort for the merchant

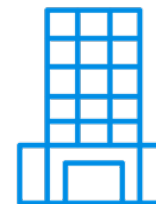
How is trading taxed?

Private / Corporate (both FIFO)



Private

- private sale transaction (§ 22 Nr. 2, § 23 Abs. 1 Nr. 2 EStG)
- according to § 23 Abs. 3 Satz 1 EStG profit = disposal price minus acquisition and advertising costs (fees)
- for trade between cryptocurrencies or for purchase of goods / services
- after holding period of 1 year tax-free according to § 23 Abs. 1 Nr. 2 Satz 1 EStG (or 10 years according to § 23 Abs. 1 Nr. 2 Satz 4 EStG)
- €600 exemption limit according to § 23 Abs. 3 Satz 5 EStG



Corporate

- in most cases similar to private
- income from business operations in according to § 15 EStG
- trade tax according to § 11 Abs. 1 Satz 3 Nr. 1 GewStG
- business tax free amount of €24,500
- generally no holding period



LAW & TAXATION

Are all questions
answered?

It is very important to speak with
a specialized tax accountant
about your specific situation.



LAW & TAXATION

Who has the knowledge
and can help me?

Specialized tax accountants & lawyers

Germany

WINHELLER
Rechtsanwälte & Steuerberater

Schürmann 

Austria

WOLF THEISS

Switzerland

coming soon

Tax tools for Germany & Austria



Dash



www.dash.org



www.dashforcenews.com



www.dash-embassy.org

