



EOSIO Swiss Workshop

Platform Architecture - Smart Contracts - Startups

**Free technical workshop to
Learn about the EOSIO Protocol
CV Labs Zug | 27th of Feb. 2020
5:30 to 7:30 PM**

WWW.
EOS BLOCKCHAIN SWITZERLAND
.ch



The future is multi-chain

A 360° vision of the EOS Ecosystem



EOSIO Protocol

Smart Contract Platform



EOS NATION

Block Producer
On EOSIO based chains
&
dAPP Service Provider
On the dApp Network (LiquidApps)

More than a Block Producer.



Block Producer



Maintains and secures **EOSIO**
chains in the EOS Ecosystem



Worldwide Team

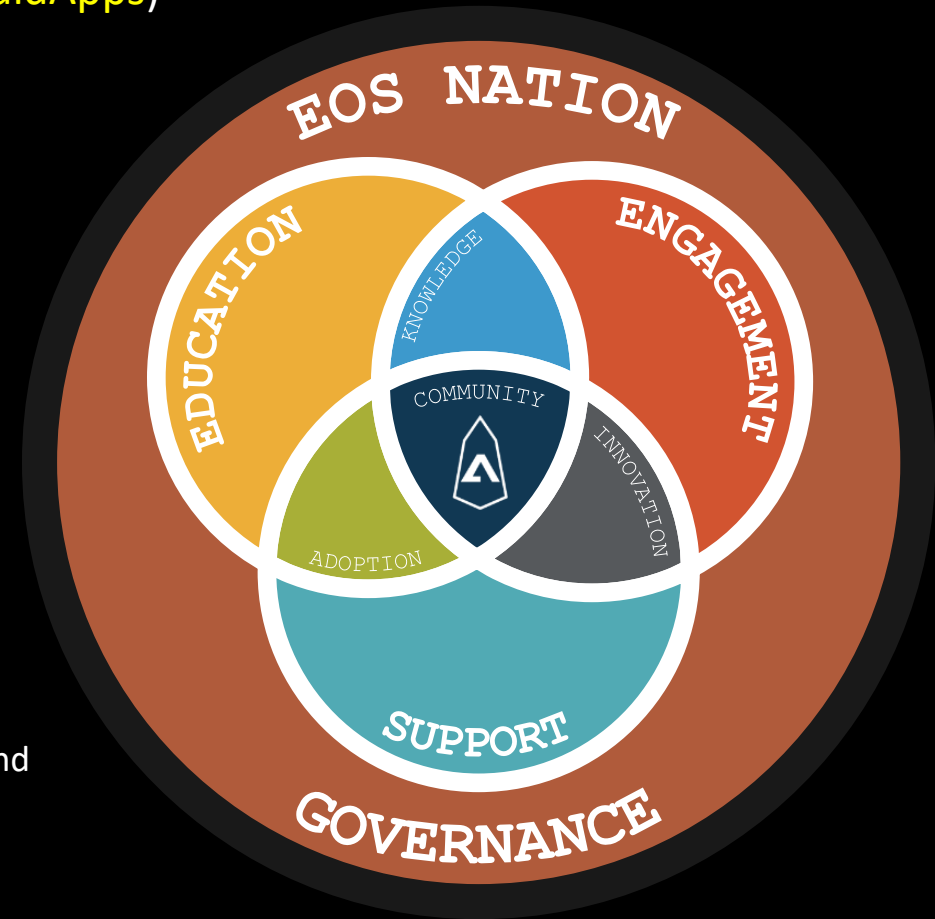


Working towards EOS adoption



7 Founders, 4 Staff, 3
Interns and 16 Ambassadors

- + Educational events
- + Creating and sharing content
- + Sponsoring meetups, hackathons and conferences
- + Community engagement
- + **Strong and reliable block production infrastructure**

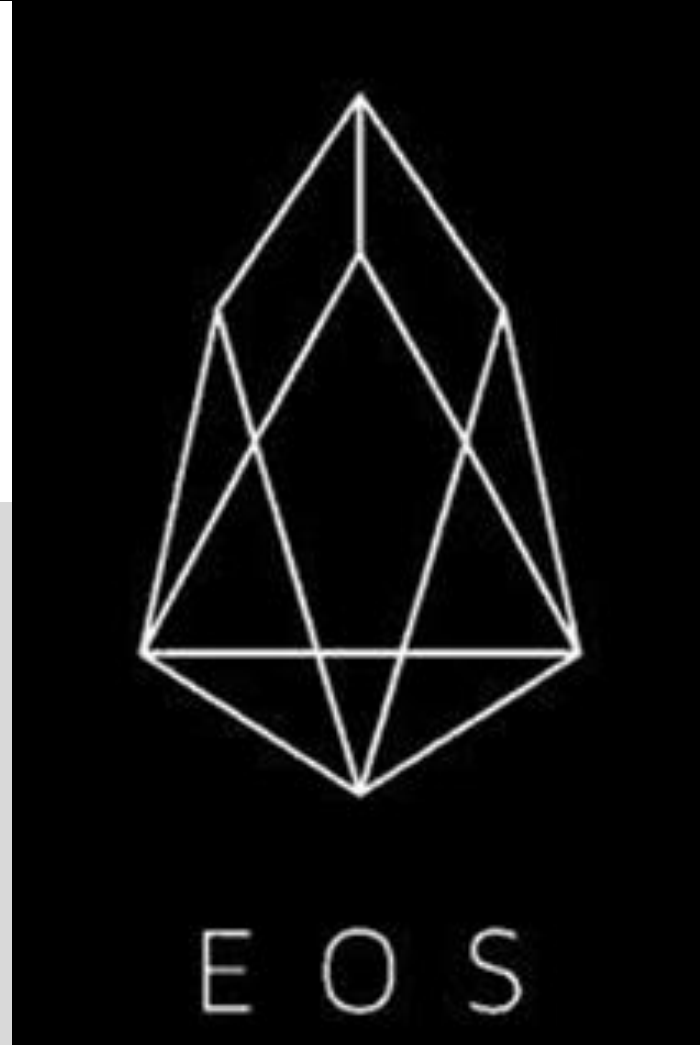




Patrick Bernard Schmid

Switzerland EOS Nation Ambassador

Since October 2018



Education Platform | Since December 2018

**BI - Data Analytics | Software Engineer
IT Consulting | January 2006**

**Blockchain as a Service
NovaCrypto Startup | February 2018**

**Regions
Switzerland | Liechtenstein**

**Business Solution
GESTech UI & Toolkit
BI | CRM | EDM | ERP**

Blockchain Switzerland



GESTech benefits

MIS integration and process optimization
 BaaS (Blockchain as a Service)
 PaaS (Platform as a Service)

Improved data management

Data security
 Data proof of ownership
 Data tracability
 Data mutability/immortality

Systems and modules extensible

Datawarehouse + datamart
 are created for your systems that you
 own inside your organization.



GESTECH.IO - USER INTERFACE - Decentralized data and time stamping

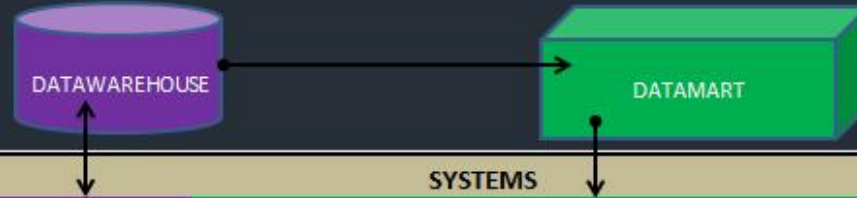
GESTECH.IO Platform Toolkit



Eos.io SOFTWARE



NOVACRYPTO PLATFORM DATA GOVERNANCE + GDPR COMPLIANT



ERP	CRM	BI & MindMapping	GIS	PLATFORMS
Winbiz	Microsoft	PowerBI	MapInfo	AZURE
Cresus	VTiger	QlikView	ESRI	EOSIO
SAP		Tableau		VOICE
NAVISION/AX/D365		Excel Pivot		WORDPRESS
OASIS		MindManager		
BEXIO		FreeMind		

MODULES

Core business module	Verticalized relatively to your business sector
Synchro	Bidirectional/unidirectional depending on the data exchanged
Emailing	Personalized emailing based on template
Followup/Reminder	Embedded pannel in the GESTech UI
Full text search	Listing of the data record and positioning in the GESTech UI
Document generation	Based on your document template
Resource indexation	At any data level and opening the resource embedded in GESTech UI
Reporting	Customizable queries and output in Excel



Blockchain Switzerland

EOSIO Education Since October 2018

www.eosblockchainswitzerland.ch

EOSIO Meetups / Workshops
 Join the meetup group
 EOS-BLOCKCHAIN-SWITZERLAND

Customer benefits

Reduced costs
 Software licenses, Resources
 Operations, Production

NovaCrypto LTD | Startup

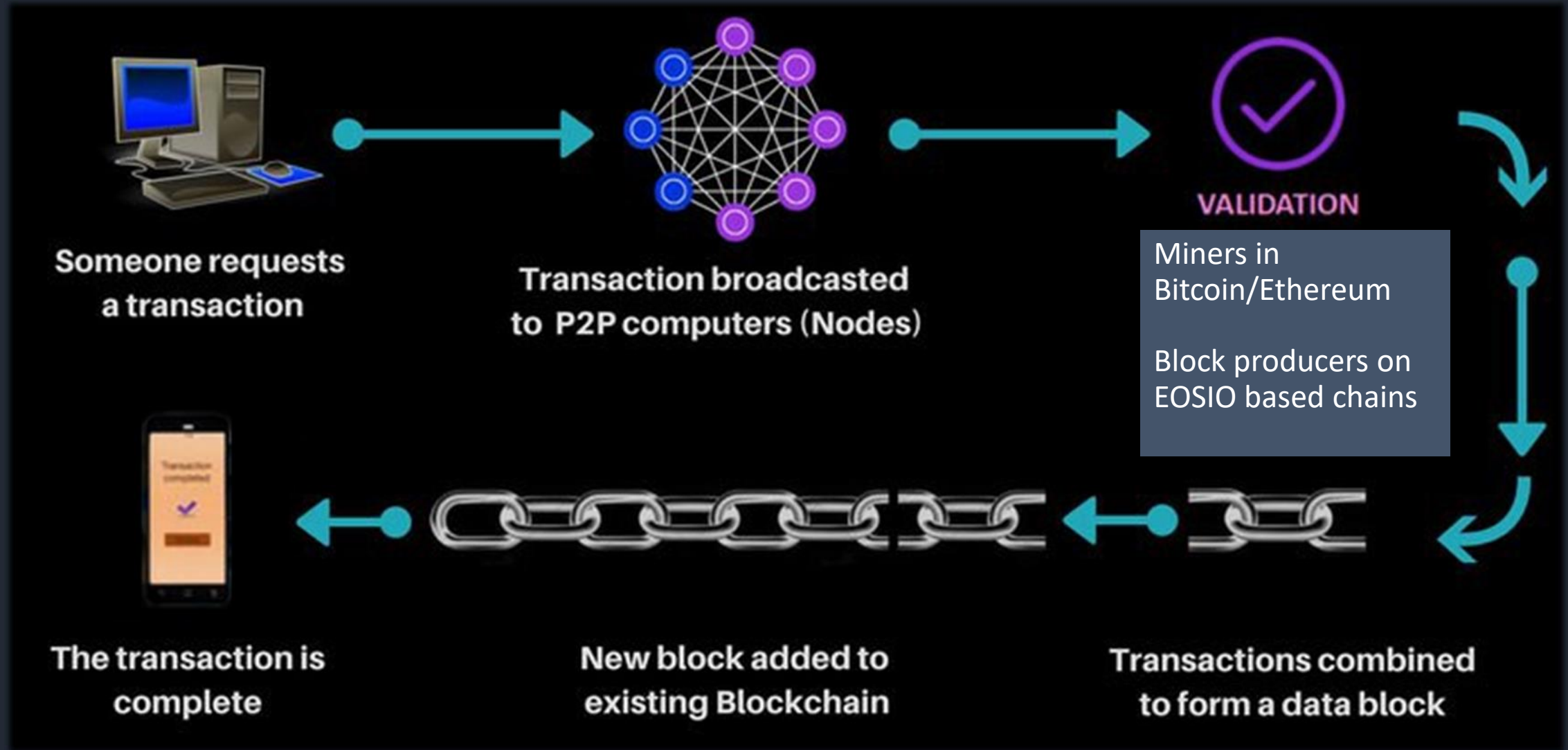
In building since Feb. 2018

www.novacrypto.ch

+14 years expertise in software engineering
 Systems and modules that fit your needs

Business process identification
 Audit of your MIS
 Agile implementation

How a transaction is flowing in a Blockchain



Blockchain Characteristics

- Verification of transactions without having to be dependent on third-parties (**Desintermediation, Trustless**)
- Data cannot be altered or deleted (**Immutability**)
- Uses protected cryptography to secure the data ledgers (**Security**)
- The transactions that take place are transparent (**Transparency**)
- Transactions stored in the blocks are distributed to all computers participating in a blockchain (**Decentralization**)
- It removes the risk of duplicate entry or fraud (**Double spending**)
- Attacks are difficult, because the nodes are distributed among different infrastructures/location and jurisdiction. There is no single point of failure (**Resiliency**)
- With smart contracts, conditions can pre-set on a blockchain (**Self executable contracts**)

Consensus Algorithms

Used to confirm that transactions are valid on a Blockchain.

1st & 2nd generation: Proof of Work (PoW)

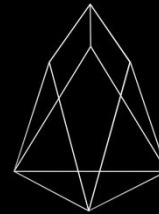
Requires the solution of a mathematical puzzle. **All the nodes have to compete.**



3rd generation: Delegated Proof of Stake (DPoS)

Users of a EOSIO Blockchain delegates their decision-making power to **elected** block producers (**nodes**).

By Dan Larimer, CTO Block.one – Virginia Blaksburg



E O S



Bitshares



Blog.
Vote.
Post.
Earn.

EOSIO Basics

<https://developers.eos.io/eosio-nodeos/docs/overview-1>

DPOS architecture

- Transactions <-> Operations <-> Actions
- Accounts (for dApps users + and for Smart Contract)
- Permissions (Active, Owner)

Monitoring tools

- Block explorer (Bloks.io)
- Statistics (EosAuthority, BlockSmith)
- Activity (Blocktivity.info)

Wallets

- Lynx (multi-eosio chains)
- Token Pocket (multi-eosio chains + multi-chains protocols)

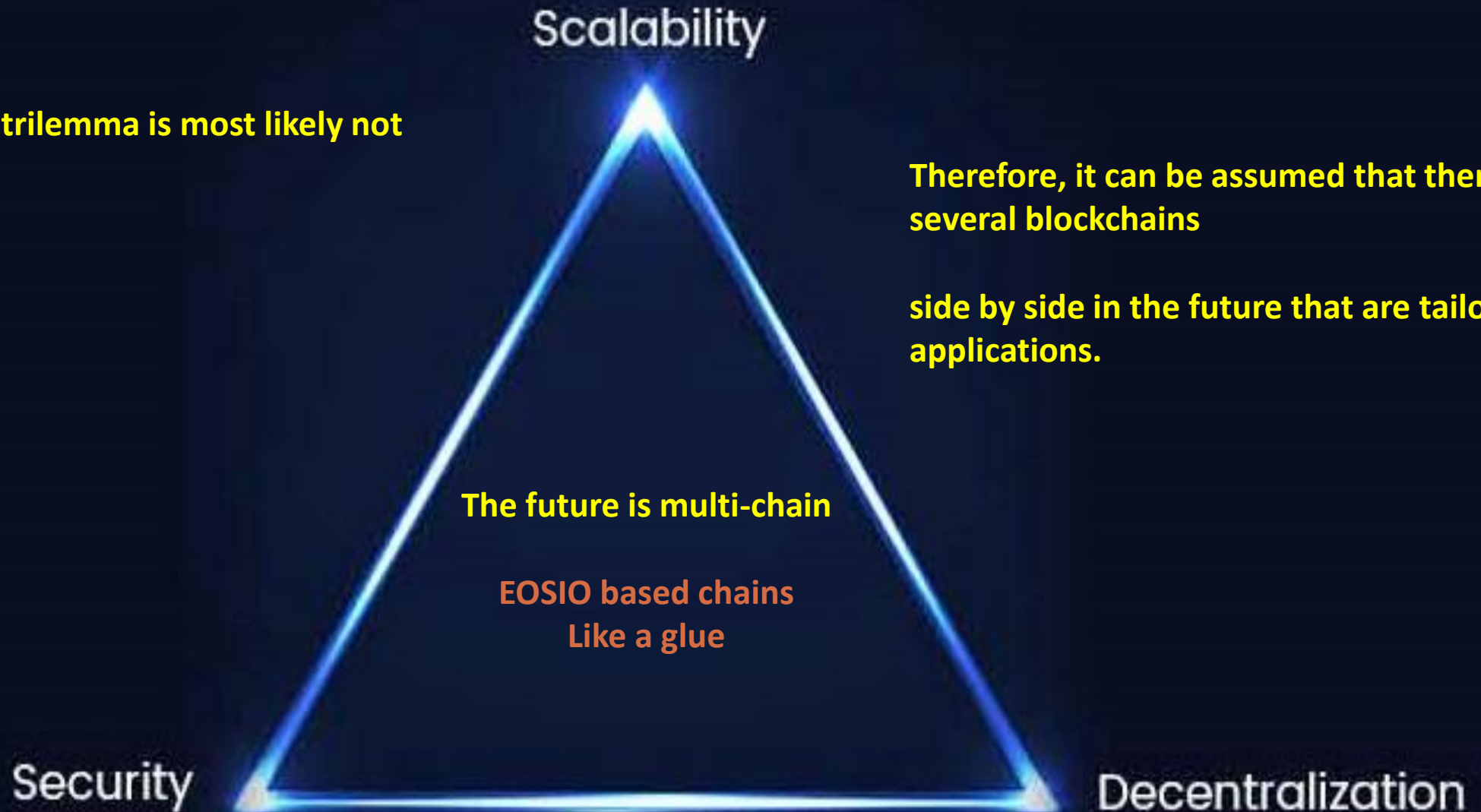
- An **action** represents a single operation
- A **transaction** is a collection of one or more actions
- A **contract and an account** communicate in the form of actions.
- **Actions** can be sent individually or in combined form if they are intended to be executed as a whole.

Blockchain Trilemma

The blockchain trilemma is most likely not solvable.

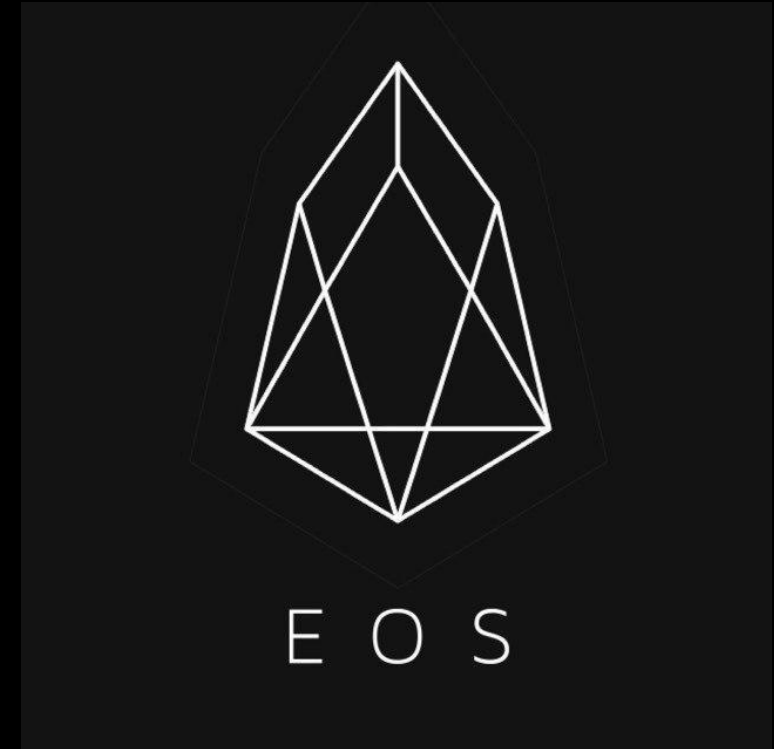
Therefore, it can be assumed that there will be several blockchains

side by side in the future that are tailor-made applications.



What is the EOS Ecosystem ?

- Scalable infrastructure that supports industrial-scale decentralized applications (dApps)
- **Open-source** and it was launched by the community on Jun 2018 (MainNet)
- “EOS MainNet” is one of many **EOSIO** networks being run by a decentralized group of Block Producers from all over the world
- Owning **EOS tokens** guarantees access to resources, like CPU (computational capacity), NET (bandwidth) and RAM (memory)



The EOS native token is defined as a Utility Token

EOS features

- **For the users** : [How transactions are fee less in EOSIO ?](#) ← Watch video
(Smart Contract's **actions**)
- **For the developers** : flexible Smart Contract Model (**Mutability, Immutability**)
dApp Network Middleware Layer | Inter-Blockchain communication(**IBC**)
programming languages interoperability with Web Assembly (**EOS VM**)
- High number of transactions (about 4'000 TPS [on the EOS MainNet](#))
- Governance on-chain (**BPs, Polls, WPS, Referendum**)
- Carbon neutral (**Energy efficient**)
- Big worldwide representaton (**Decentralized community**)

eosio.evm: Ethereum Virtual Machine on EOSIO - Comprehensive Tutorial

https://www.youtube.com/watch?v=-ZDNFegzLCs&feature=emb_title

Nodeos Replays

<https://developers.eos.io/manuals/eos/latest/nodeos/replays/index>

EOS Ecosystem – Current state

- EOS VM: New purpose-built WebAssembly engine
- EOSIO Quickstart Web IDE
- WebAuthn Support
- Weighted Threshold Multi-Signature Block Production
- Multi-threaded net_plugin

eosio

Faster. Simpler. More Secure.



<https://eos.io/news/introducing-eosio-2/>

dApp <> Smart Contract(s) <-> EOSIO based chain(s)

dApp	Smart Contracts
Desktop application (client-server, WEB UI) Mobile application. 1 to many portion in your code	
Complete computer program (Business logic, the use-case to solve)	Small component of dApp program

← **Connect** the portion of your code with decentralized data →

**EOSIO based chain
Or with an other blockchain
protocol**



Any EOSIO Smart Contract is flexible

Easy Upgrades and Bug Recovery

When an "**unstoppable smart contract**" acts in an unpredictable manner

a blockchain using the **EOSIO software** allows the block producers to **replace** the account's smart contract **code** without hard forking the entire blockchain.

This replacement of the code **requires a 15/21 vote** of elected block producers.

EOSIO software - <https://developers.eos.io>

EOSIO Advanced

Advantages for your B2B or B2C experience

- Your own Platform – IT Data Governance
- EOSIO Smart Contract Platform
- NEWDEX exchange, Rental system, EOS Locally

How to connect an application with an EOSIO Smart Contract

- EOSJS, EOSTYPESCRIPT
- CURL – Remote procedure call (API raised by Block Producer)

IDE (EOS Studio Web, Desktop)

- NODEOS, CLEOS

IDE LiquidApps Network

- ZEUS SDK, ZEUS IDE

Kylin TestNet

- Login, faucets for token
- Smart Contract integration with LiquidApps

Metrics and purpose of EOSIO based chains

- Block Time, Block Latency : **0.5 seconds**
 - Block confirmation, Last irreversible block : **3 minutes** on the EOSIO MainNet
 - On **BOS EOSIO** based chain : **3 seconds LIB**
-
- EOS MainNet has to remain the store of value where resources are growing and are maintained
This is the settlement layer + identity layer (authorization)

EOS Nation infrastructure

- EOS Nation **is a high-grade security DSP**
- EOS Nation deploys infrastructure across **two separate legal jurisdictions**, accessing different power grids and **different internet backbones** to ensure **maximum redundancy** and **maximum uptime**.
- Since the EOS MainNet launch back in June 2018, EOS Nation has proven itself to be a reliable EOSIO Block Producer, having produced over **500,000 blocks** with 99.991% round availability.



For DAPP Network services
visit dsp.eosnation.io

• Oracle • Stake • vRAM • Cron

StrengthEARN the Network!
Your Stake, Your Rewards.

Visit
proxy.eosnation.io

Now with Auto-Claim
and Custom Rewards!





EOS

Decentralized Applications Platform(dApps)
with your EOS Account

Some applications inside the EOS Ecosystem



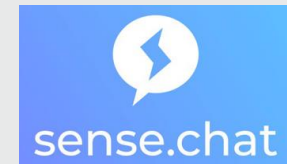
VOICE – Social Network - Mobile and desktop Version
In beta since 14th of Feb. 2020 (US)



WordProof – Timestamping system for Content Management System (CMS)



Lynx Wallet – Mobile and Desktop Version
Wallet | dApps portal | News



Sense.chat
Wallet | Secure messaging



Everipedia
The decentralized blockchain Encyclopedia



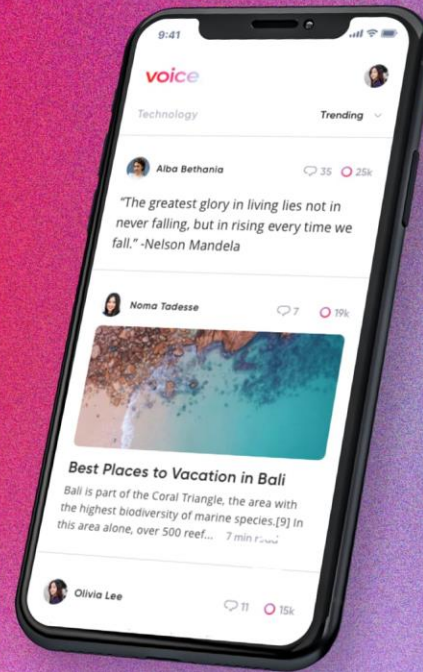
Block explorer
The most powerful Block Explorer with MSIG support



Scatter
Secure user identity to transact on a EOS blockchain

voiceTM
Social as it should be.

BETA



- Free eos account provided by B1
- Post – 160 char. Minimum
- Ground rules
- On-chain taily voicing
- IPFS support (Hash)

The design for VOICE has multiple blockchains on the backend, some of them private for maintaining personal information, some of the public for all this stuff that people get to see, and that provides security.



Do the Rich get Richer on Voice?

Voice was designed from the ground up to ensure that content creators are rewarded based upon the popularity of their content and that members of the community are rewarded for identifying and finding this content first.

My experience with Steem taught me the problems with token-weighted voting which is why the like rewards on Voice are one-real-user / one-vote. There is currently a math bug in the like rewards calculation which will be fixed when we deploy the next version of the voice smart contract. At that time it will work like the N squared algorithm from the original Steem only as if all people had the same power.

The background features a stack of three wooden coins. The top coin is plain wood. The middle coin is partially obscured. The bottom coin is intricately carved with a floral or geometric pattern. A white paperclip icon is positioned to the left of the top two coins. The text 'WordProof' is overlaid on the top right, with 'Word' in blue and 'Proof' in teal. The main title 'Timestamp on the Blockchain' is in white, and 'WORDPRESS PLUGIN' is in smaller white text at the bottom left.

WordProof[®]

Timestamp on the Blockchain

WORDPRESS PLUGIN

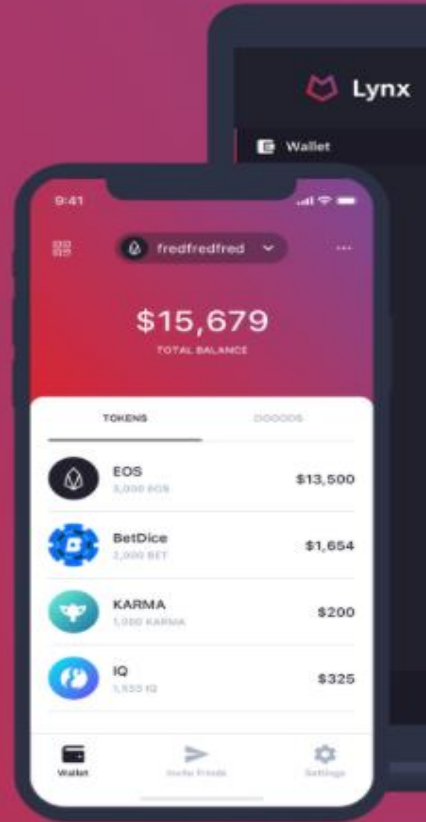
Wallet(s)



A Whole New Wallet. On A Whole New Level.

The first crypto platform designed for the everyday consumer.

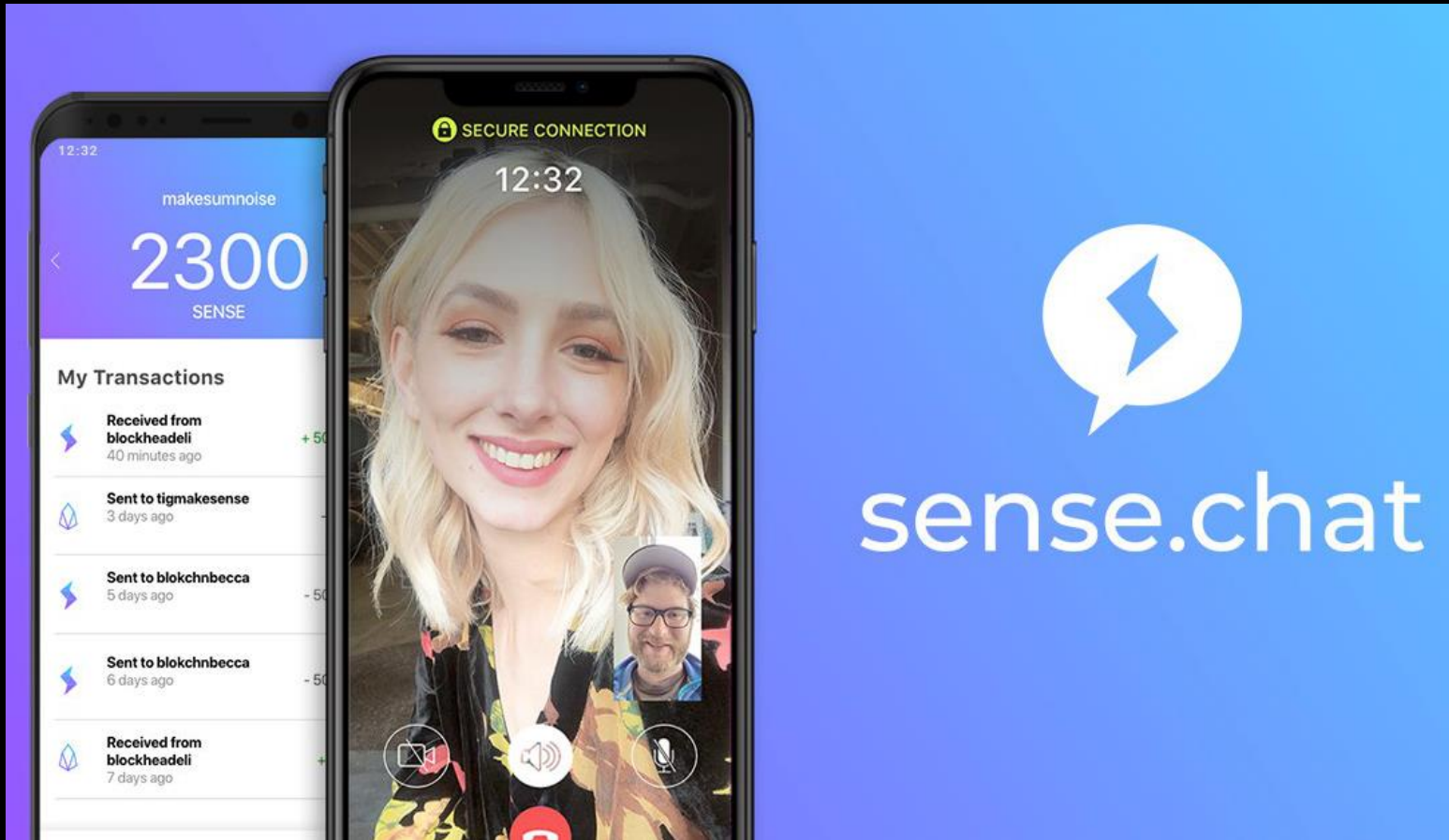
[Download For Desktop](#)



Features :

- Transfer/Receive EOS tokens
- Vote for BPs (with staked EOS)
- Access dApps
- Read news

Sense.chat – Secure Messaging



Features :

1. Transfer **Sense** and **EOS** tokens
2. Peer-to-peer secure messaging

[ERC-20 to EOS-21 Teleport Protocol Works, Move Tokens From Ethereum to EOS](#)

Secured transactions on a EOSIO blockchain

Block explorer



Bloks.io

This schema using Scatter to secure user identity is also valid for other EOS dApps doing transactions via EOSIO based chains.



User Secure Identity



Scatter

For EOSIO based chains

And other blockchains protocols



An Eosio blockchain



E O S

Scatter is a desktop application
it makes phishing almost impossible.

<https://www.publish0x.com/eosmastering/eosmastering-talks-to-nsjamesscatter-xxzdy>

Everipedia

Wikipedia



Features

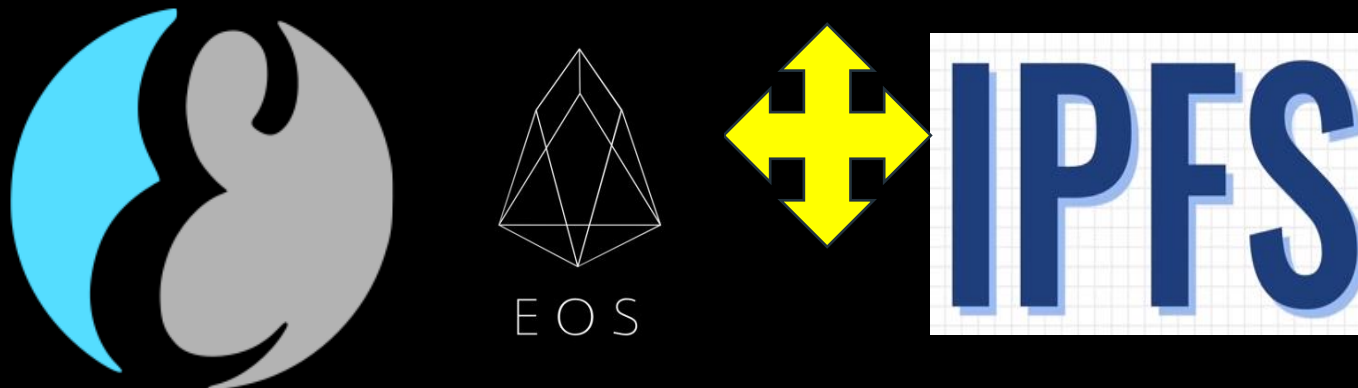
- Central Servers
- No blockchain
- No model Learn + Earn

[IPFS SIMPLY EXPLAINED](#) ← Watch video

Everipedia

The decentralized blockchain encyclopedia

Features

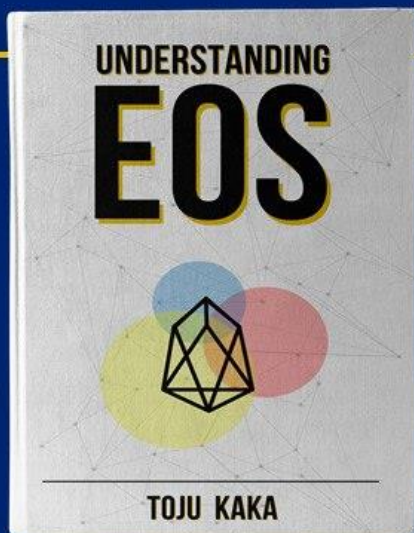


- Online encyclopedia
- EOS + IPFS
- Over 6 million articles
- Including all articles from the English Wikipedia

Patrick Schmid

Founder of NovaCrypto LTD and
Switzerland EOS Nation Ambassador

Toju Kaka is a fervent educator and promoter of blockchain technology. Through his EmpowermeEOS project, he and his colleagues in Africa bring knowledge to young people who will soon benefit from the universality of EOS. This book is a summary of best practices to adopt with the EOS ecosystem. It is a pleasure to read content that has been carefully selected.



<https://www.amazon.in/Understanding-EOS-beginners-blockchain-cryptocurrency-ebook/dp/B083QXZ6CH>



The EOS User Guide

https://www.eoswriter.io/164003_eos-user-guide-overview.eos



<https://t.me/eosioswissworkshops>

Quotes

- The EOS Ecosystem is the only one multi eosio based blockchains that allow interaction between real humans on a social network as it should be, with proof of voice auditable on-chain as it should be.
- Transactions between centralized world and decentralized world will become natural, thanks to Oracles.
- Scalability, Traceability, Security and the most suited decentralization at the dApp layer is the natural software engineering mindset, thanks to APIs and middleware between the Emulated Operating System (EOS) with the resources growing on the settlement layer materialized by the EOS Mainnet.
- The EOS Ecosystem is creating a Galaxy of multiple decentralized networks where multiple protocols will interoperate together to arrive at the best consensus regarding the use-case/corp to implement and the metric to track. Proof-Of-X, where X is the metric.
- If you can replicate in the decentralized world, the societal, economical, technological features you are able to create the interaction as it should be.

The reason blockchains and development frameworks like EOSIO exist is to **free** the application developers from having to reinvent the 'database' in order to build secure applications.

Dan Larimer, Block.one

Not adopting blockchain tech in the years ahead will be like a bank not adopting SSL, and once the technology is widely available not using blockchain technology could, in my view, be considered negligence.

Dan Larimer, Block.one

Contrary to popular opinion, blockchains don't have to be slow, inefficient, databases nor do they have to operate on a censorship resistant, open access basis. A blockchain can provide a company huge improvements in security, audit-ability, transparency, and overall integrity of the business process even if the blockchain is entirely operated by the company itself and none of the contents of the blockchain are made public.

Dan Larimer, Block.one



E O S

Blockchain Switzerland

www.eosblockchainswitzerland.ch



NovaCrypto

your decentralized apps platform

www.novacrypto.ch



[Meetup.com/EOS-BLOCKCHAIN-SWITZERLAND](https://www.meetup.com/EOS-BLOCKCHAIN-SWITZERLAND)



t.me/eosswissvalley



t.me/novacryptold



EOS NATION

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facebook.com/groups/EOSNation



github.com/EOS-Nation



t.me/eosnation



NovaCrypto

your decentralized apps platform

