

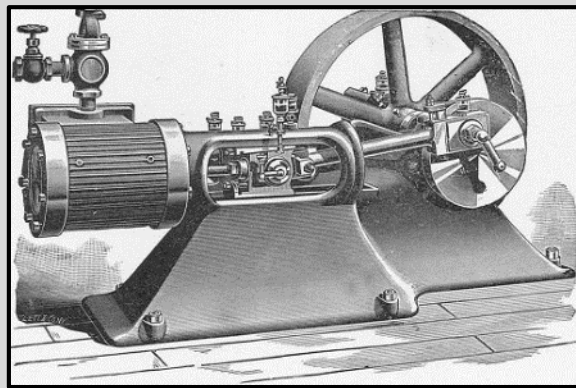
April 23, 2018

„BLOCKCHAIN & IOT“

BY LUKAS (AN DXC EMPLOYEE)

EVOLUTION OF REVOLUTION

PHYSICAL SYSTEMS



1781 INDUSTRIAL REVOLUTION
MAN/MUSCLE POWER SHIFTED TO
MACHINES



1880

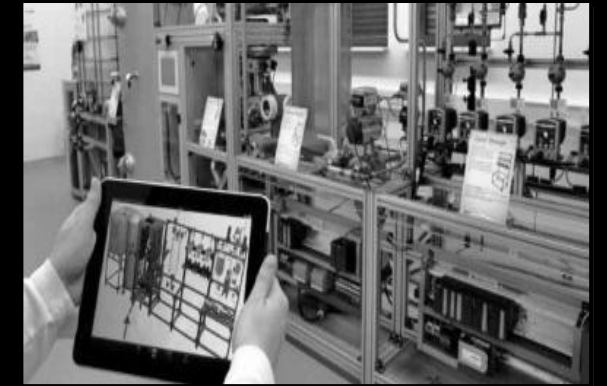
ELECTRICAL REVOLUTION
ELECTRIFICATION ENABLED
SUSTAINABLE INNOVATION OF
MACHINE CONCEPT.

CYBER SYSTEMS



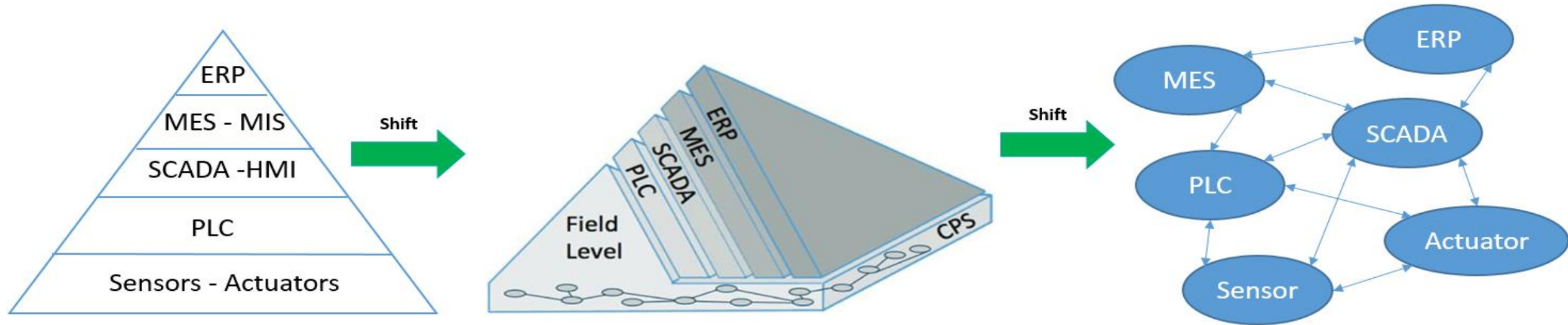
1969 BINARY REVOLUTION
MIND/BRAIN POWER SHIFTED TO
COMPUTERS.

CYBER-PHYSICAL SYSTEMS

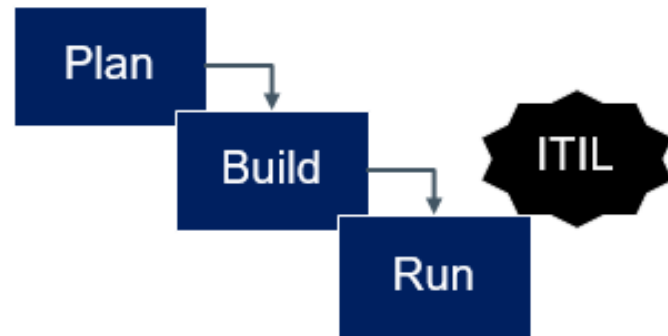


NOW DIGITAL TRANSFORMATION
HUMAN HAVE MUSCLE SYSTEM
COMPLEMENTED BY BRAIN. SO
WHY COMPUTER CAN ACHIEVE
SAME SYNERGY WITH MACHINES?

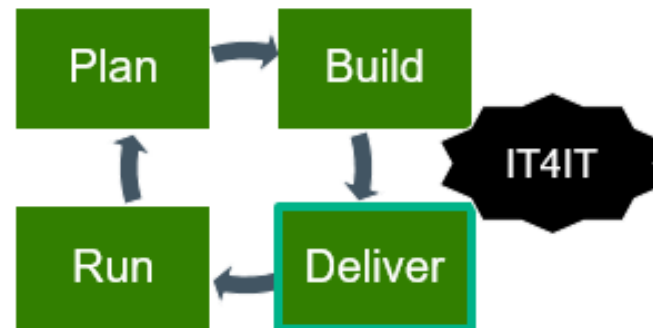
EVOLUTION OF STANDARDS



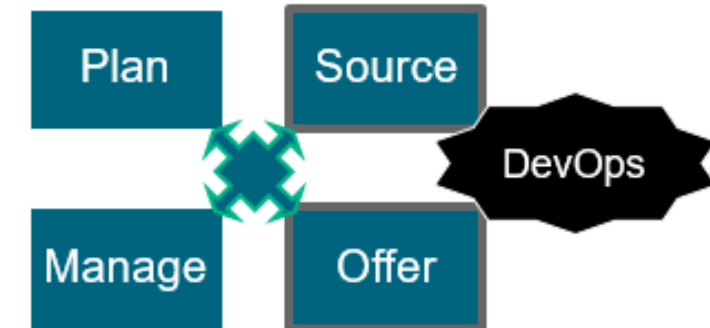
**Industrialized IT
(Technology Centric)**



**End-to-End IT
(Service Centric)**



**IT as a digital enterprise
(Collaboration Centric)**



BLOCKCHAIN & IOT

THE IOT IS AT CORE OF THE DIGITIZATION PROCESS OF THE ECONOMY AND SOCIETY.

THIS NEW DISTRIBUTED MODELS COMES WITH NEW CHALLENGES IN AREA OF:

- SCALABILITY
- PRIVACY
- RELIABILITY

BLOCKCHAIN IS MISSING LINK BETWEEN IOT DEPLOYMENT CHALLENGES AND VALUES EXPECTED FROM SUCH A DISTRIBUTED MODEL. BLOCKCHAIN IS SEEN AS PROMISING ALTERNATIVE TO ESTABLISHED PRACTICES BASED ON CENTRALIZED CONTROL.

EVOLUTION OF STANDARDS

	IOT	BLOCKCHAIN
DECENTRALIZED	✓	✓
CONSENSUS-DRIVEN	✗	✓
UNALTERABLE	✗	✓
TIME-STAMPED	✗	✓
ANONYMOUS	✗	✓
PROGRAMMABLE	✓	✓

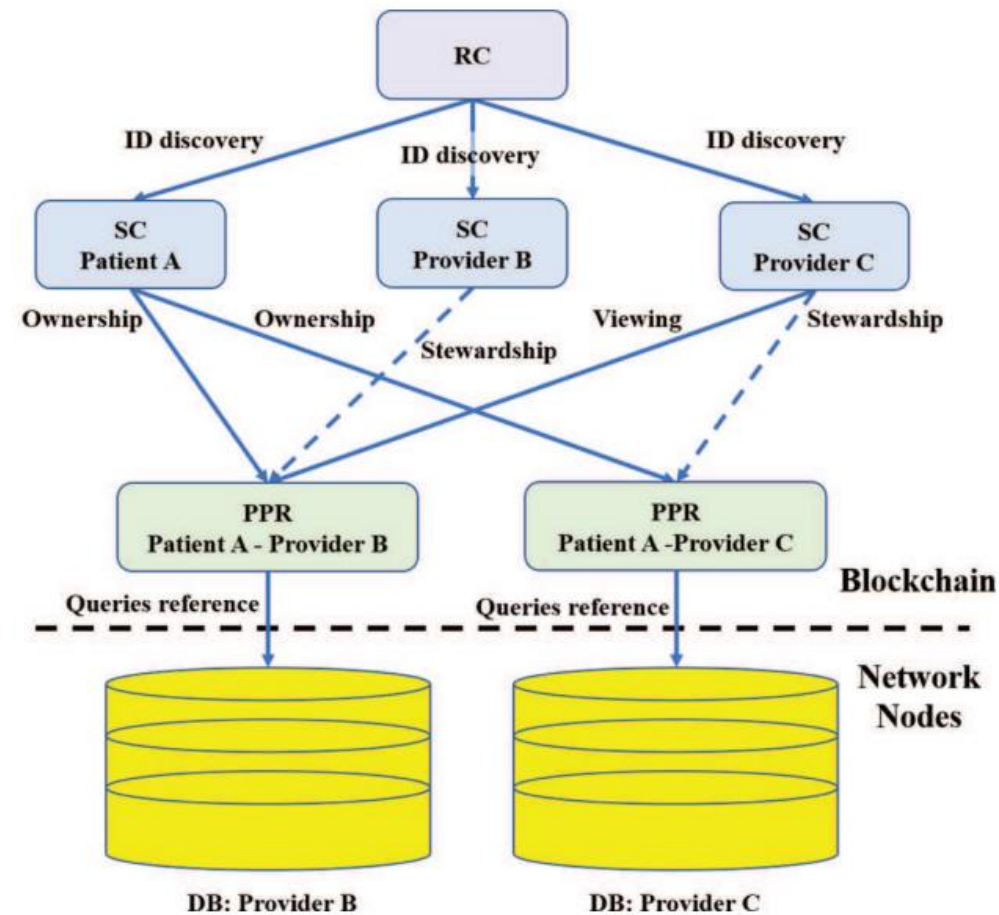
HEALTHCARE

THE INDIVIDUAL OWNS HIS/HER OWN HEALTH AND CAN ACCESS A LIFE-TIME SUPPLY OF RECORDS, ANYTIME, ANYWHERE. WHEN NECESSARY, THE RECORDS ARE SHARED, ACCESSED AND INTERPRETED BY VARIOUS STAKEHOLDERS IN A TRANSPARENT AND EFFICIENT MANNER.

Registrar contract (RC)		
Name 1	Eth. address	SC
Name 2	Eth. address	SC
...

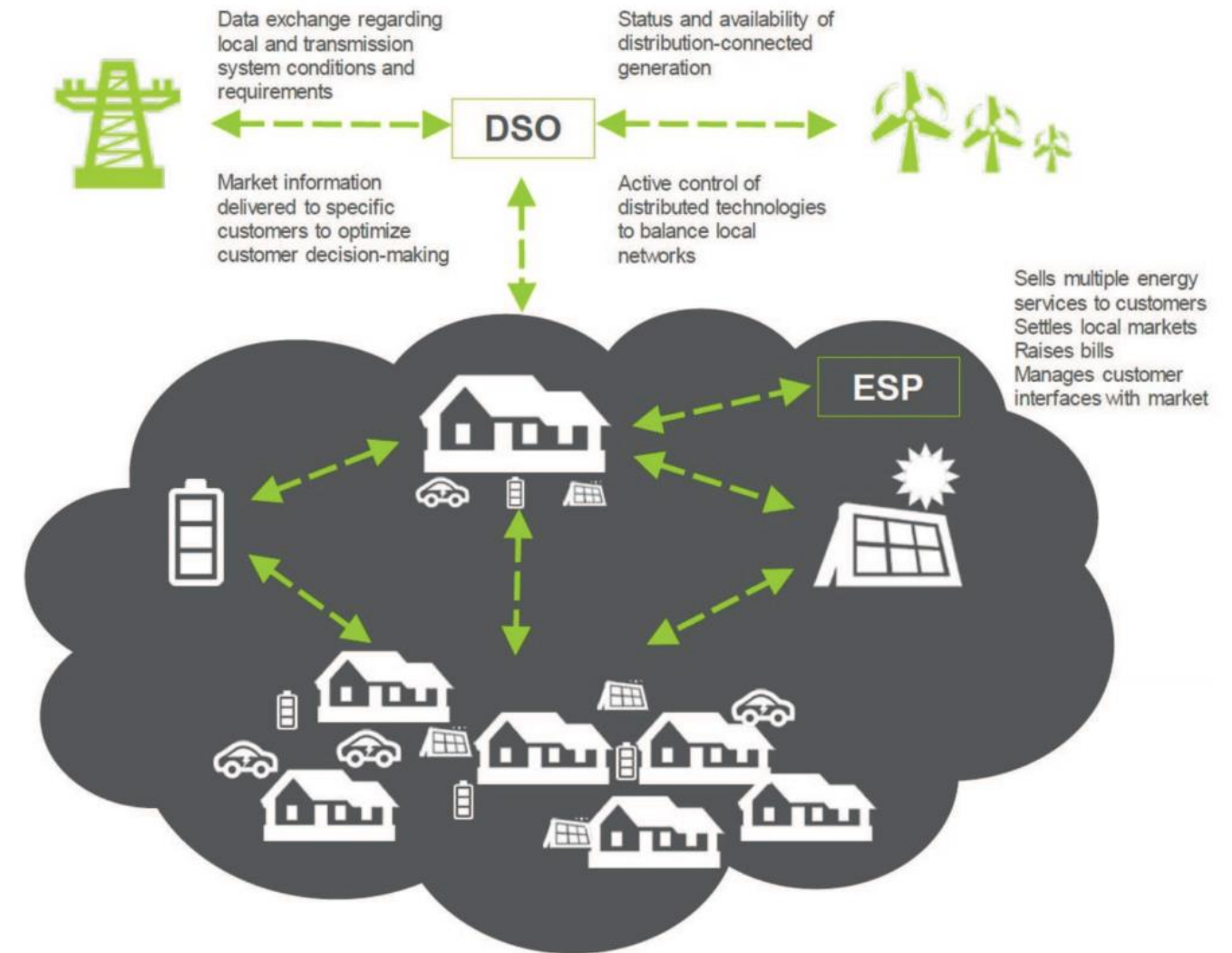
Summary contract (SC)	
Name 1 Eth address	
PPR address	Status
PPR address	Status
...	...

Patient Provider Relationship (PPR)	
Owner	Access info
EMR queries & hashes	
Permissions	
Mining bounties	



ENERGY & UTILITIES

ENERGY CONSUMPTION BEHAVIOR IS EXPECTED TO BE CHANGED. TODAY'S CENTRALIZED UTILITY MODEL SHALL TRANSFORM INTO DISTRIBUTED ENERGY SERVICE PROVIDERS. WHERE EXCHANGE OF ENERGY AS MEDIUM OF VALUE WILL BE BIDIRECTIONAL, GOVERNED BY SMART CONTRACTS AND INCENTIVES TO STIMULATE PRODUCTION OR STORAGE OF ENERGY. NEW UTILITY MODEL WILL BE COMPOSED OUT OF VIRTUAL POWER PLANTS, MICRO GRIDS, NANO GRIDS, ... SELF HEALING AND AI EMPOWERED ... IDEALLY 😊



HAVE A QUESTIONS ? ANSWERS? FEEDBACK?
BOTH?

HIT: [HTTPS://FEEDBACKER.SK/](https://feedbacker.sk/)

HASHTAG: #IOT

**SOME BACKUP BLAH BLAH BLAH FROM
THIS POINT**

IOTA COKE?

DXC.technology IOTA

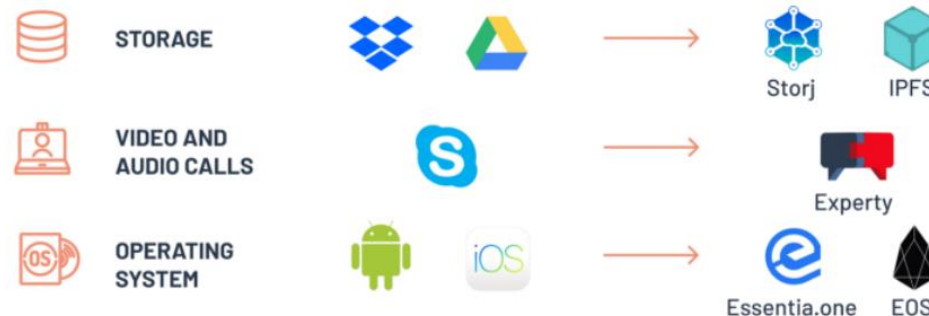
Sent 3 Mi Orange Juice
Received 3 Mi Drink
Received 3 Mi Drink

Visit us at the Hannover Messe (Hall 6, Stand B46)
and experience the live demo of IOTA & DXC

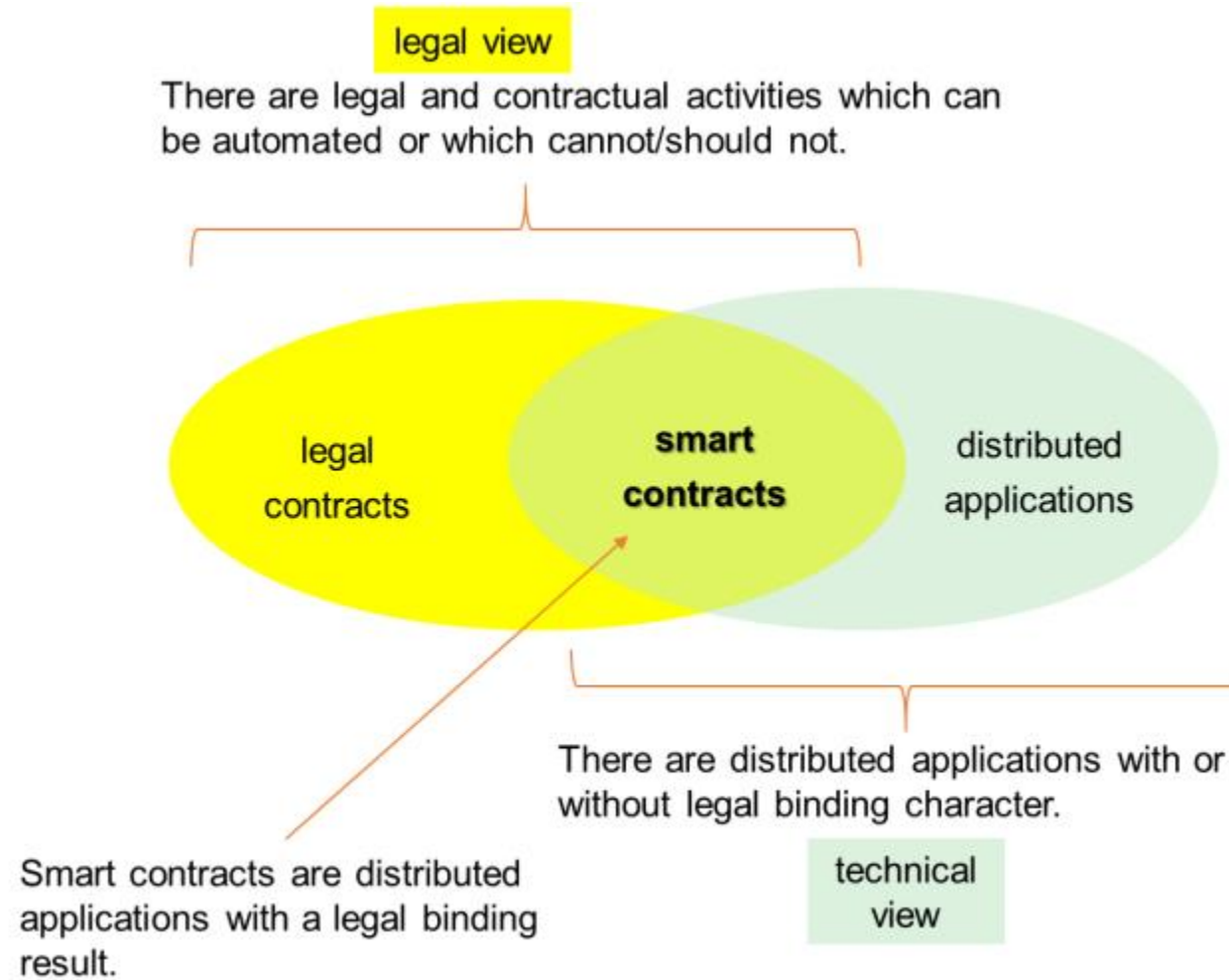
April 23 - 27

What technology consist of?

BC ELEMENT	TECHNICALLY	RELATED STANDARDS
OPERATIONS	DC, CLOUD, CROWD HOSTING, ...	ISO/IEC 27001, BSI 100
IMPLEMENTATION	PUBLIC, PRIVATE, CONSORTIUM	ISO/IEC 15408
PRIVACY MECHANISM	FREE, PERMISSIONED	ISO/IEC 29115, 27017, 27018, 27552, JTC SC 32
APPLICATION PROTOCOL	SMART CONTRACTS, DAPPS, ...	NOW DECOUPLED FROM BC VIA SMART CONTRACTS BUT ???
BLOCKCHAIN PROTOCOL	CONSENSUS PROTOCOL	IN PROGRESS (ISO/IEC TC 307)
CRYPTOGRAPHY	HASH FUNCTION	ISO/IEC 10118, 14888, 18014, 29128, 9798, 13888, 18031, 20009, 20008



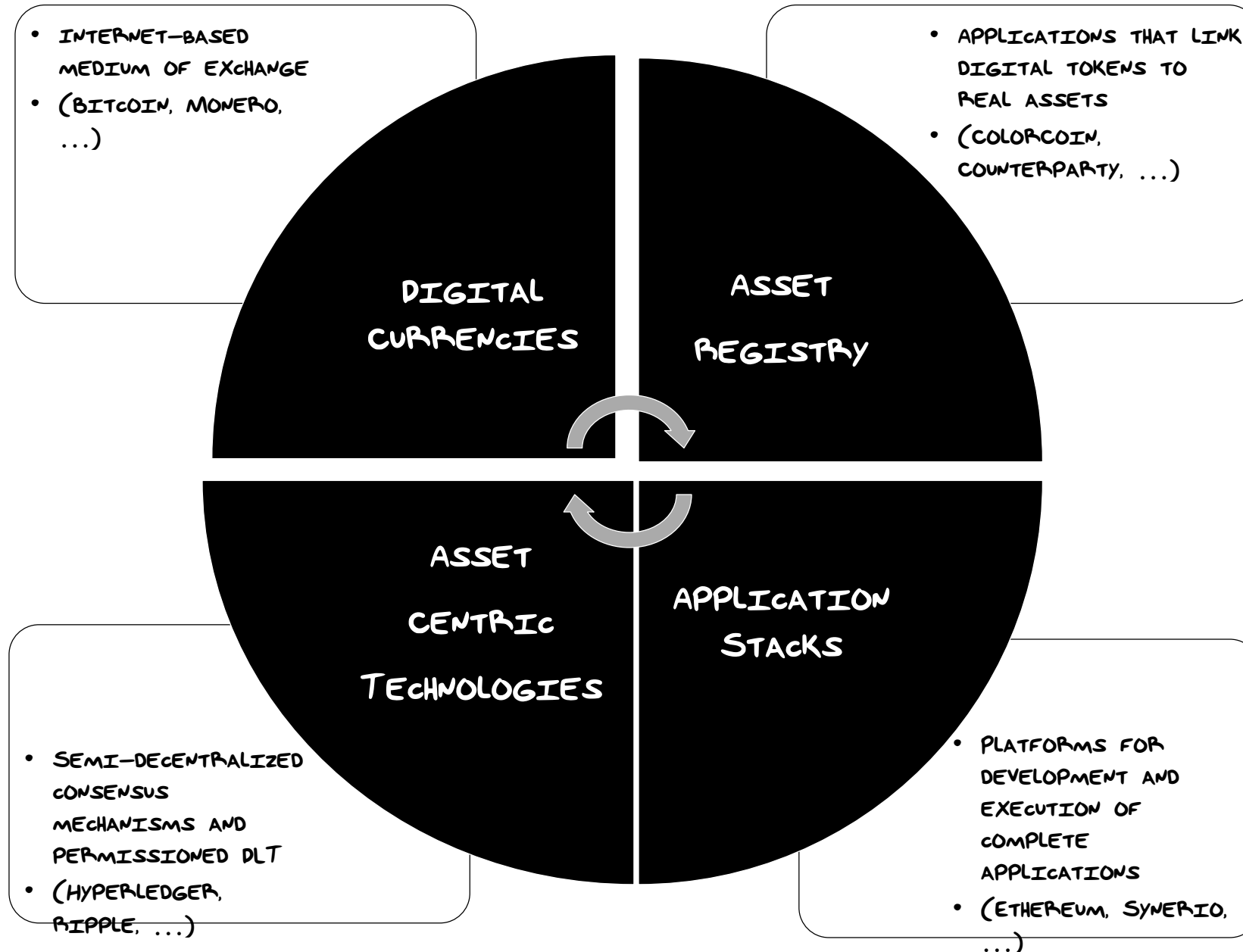
WHAT IS SMART CONTRACT?



TECHNICAL VIEW:
A SMART CONTRACT IS A DISTRIBUTED APPLICATION RUNNING ON AND DISTRIBUTED WITH THE DISTRIBUTED LEDGER. REPRESENTS MORE THE PROCESS OF AGREEING ON AN OUTCOME THAN ITS LEGAL STATUS. ITS OUTCOME MAY OR MAY NOT BE LEGALLY BINDING."

LEGAL VIEW:
THE LEGAL CHARACTER OF A SMART CONTRACT IS THAT WHAT A JUDGE DECIDES TO BE. SO IF A SMART CONTRACT SHOULD EVER BE LEGALLY BINDING, IT IS BETTER TO APPLY LEGAL STANDARDS TO SMART CONTRACTS.

BC & DLT IMPLEMENTATION TYPES



HORIZONTALLY (APPLICATION TYPE):

- EXCHANGE OF DIGITAL ASSETS AND CURRENCIES
- NOTARIZATION OF TRANSACTIONS
- TRACEABILITY OF PRODUCTS, OF EVENTS
- STORAGE OF DIGITAL PROOF
- AUTOMATIZATION OF PROCESSES
- INTELLECTUAL PROPERTY MANAGEMENT

VERTICALLY (INDUSTRY APPLICATIONS):

- FINANCIAL SERVICES (BANKING, INSURANCES)
- GOVERNMENT AND PUBLIC SERVICES
- MANUFACTURING
- RETAIL
- UTILITIES
- CULTURE, MEDIA AND ENTERTAINMENT

BLOCKCHAIN STANDARDS AND REGULATIONS

STANDARDIZATION ORGANIZATIONS:

ISO TC 307 BLOCKCHAIN AND ELECTRONIC DISTRIBUTED LEDGER TECHNOLOGIES

CEN --

IEC --

ETSI INDUSTRY SPECIFICATION GROUP ON 'IDENTITY AND ACCESS MANAGEMENT FOR NETWORKS AND SERVICES

3GPP 5G INFRASTRUCTURE HOSTED DAPPS

ONEM2M

EU REGULATIONS AND DIRECTIVES:

EIDAS — ELECTRONIC IDENTIFICATION, AUTHENTICATION AND TRUST SERVICES

AML4D — ANTI MONEY LAUNDERING DIRECTIVE

GDPR — GENERAL DATA PROTECTION REGULATION

EPRIVACY — PRIVACY AND ELECTRONIC COMMUNICATIONS DIRECTIVE

NIS — NETWORK AND INFORMATION SECURITY