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**Symag**  
BY BNP PARIBAS PERSONAL FINANCE

**#Hackadon2018**  
30 Novembre au 2 décembre 2018

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Symag a répondu présent à l'appel de microDON pour la première édition française de Giving Tuesday en partenariat avec votre école l'EEMI.

Dans le cadre du HackaDON nous allons mettre à disposition notre plateforme et APIs BlockSY qui vous permettront d'adresser la Blockchain de manière pérenne dans vos projets solidaires.

Nous sommes convaincus que cet Hackadon sera une expérience enrichissante qui inspirera et suscitera de nouvelles formes d'engagement citoyen à tous les participants.

Symag

BY  INP PARIS SAS  
INSTITUT NATIONAL DE LA PROPRIÉTÉ INDUSTRIELLE

# Intervenant Symag sur le HackaDON

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**Julien BONNEL**

Product Manager & Head of Innovation

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# Atelier – Blockchain & BlockSY



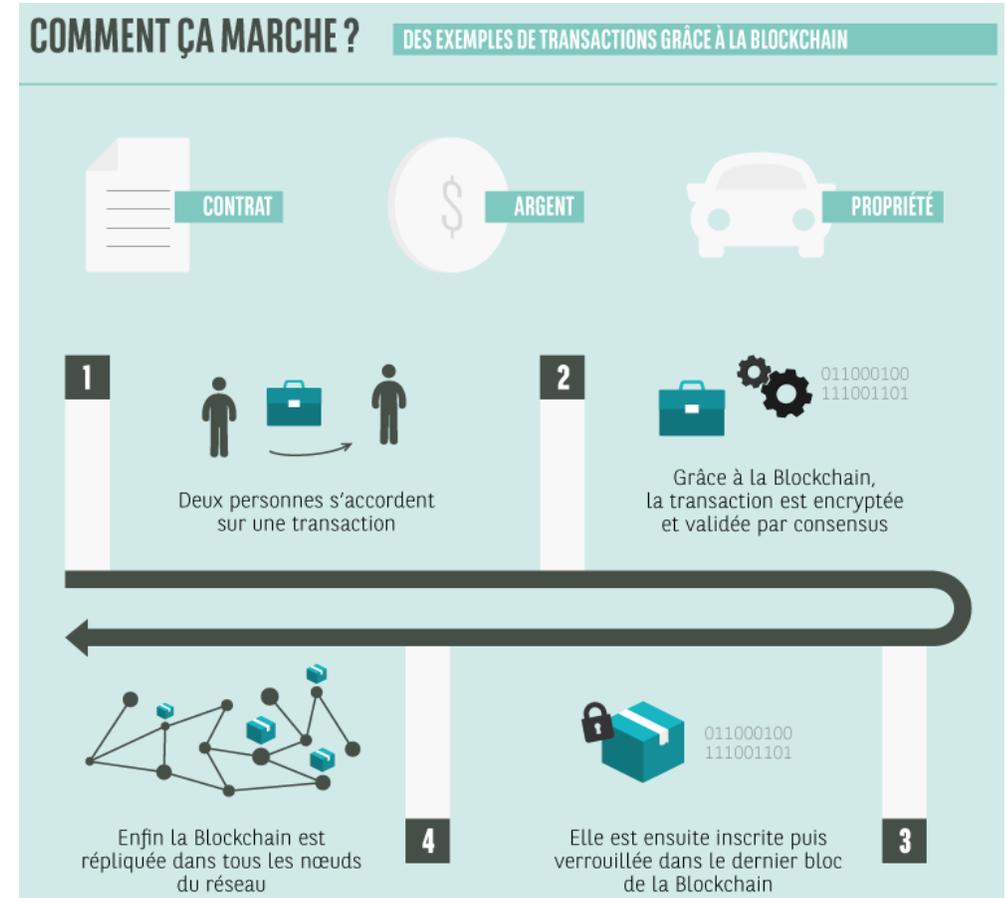
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Julien Bonnel - Responsable Innovation

Novembre 2018 | #Hackadon2018

- ❑ **Technologies**
- ❑ **Registre**
- ❑ **Transactions digitales**
- ❑ **Sans intervention humaine**
- ❑ **Sécurisé et inviolable**
- ❑ **Dupliqué sur n noeuds**
- ❑ **Transparent**



- ❑ **Sécurise les transactions digitales sans autorité centrale**
- ❑ **Assure la confiance entre les parties prenantes**



#EnjoyDigit  x Symag

by  BNP PARIBAS

by  BNP PARIBAS PERSONAL FINANCE

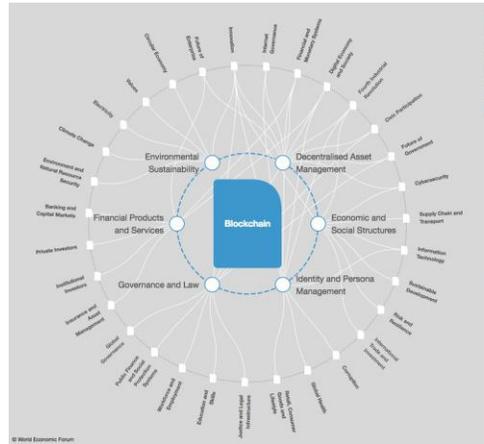
## BLOCKCHAIN

UN PAS VERS LA 4<sup>ÈME</sup> RÉVOLUTION INDUSTRIELLE

La Blockchain est une technologie d'exécution et d'enregistrement de transactions digitales **transparente, sécurisée**, et fonctionnant sans organe central de contrôle. Par extension, une Blockchain constitue un **registre distribué** qui contient l'historique de tous les échanges effectués entre ses utilisateurs depuis sa création sous la forme d'**une chaîne électronique de transactions**. Ce registre est sécurisé et distribué : il est **partagé** par ses différents utilisateurs, **sans intermédiaire**, ce qui permet à chacun d'en vérifier la validité.

# La Blockchain topic de la 4<sup>ème</sup> révolution industrielle d'après le WEF

## Blockchain en tant que registre décentralisé et inaltérable



**Blockchain**  
4th Industrial Revolution  
Co-developed with Imperial College London

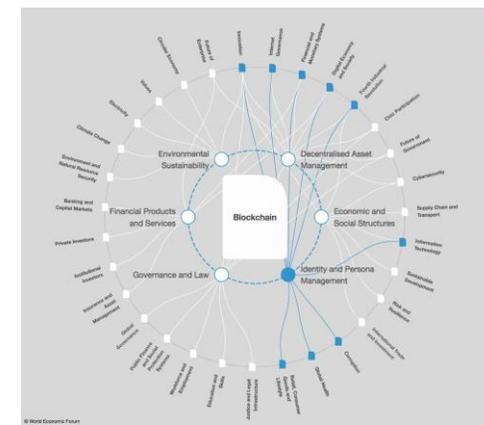
Summary Feed Experts Sessions Projects

A blockchain provides an immutable record of transactions performed across a network without the need to rely on an intermediary (for example, a central bank). It is perhaps the first truly digital economy concept – one that brings together economics and digital technologies in a way that has not previously been conceived. Blockchain enables not just new means by which to deliver financial services, but can redefine everything from government, legal practice and accountability to supply chains and energy distribution.

This briefing is based on the views of a wide range of experts from the World Economic Forum's Expert Network and is curated in partnership with Professor William Kosterbet and Dr Catherine Mulgan, Director and Associate Director of the Centre for Cryptocurrency Research and Engineering, Imperial College London.

**Key Issues**  
Decentralised Asset Management • Economic and Social Structures • Identity and Persons Management • Governance and Law • Financial Products and Services • Environmental Sustainability

## Gestion des identités et des personnes



**Blockchain**  
4th Industrial Revolution  
Co-developed with Imperial College London

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**Identity and Persons Management**  
Effective and scalable solutions for identity management are increasingly indispensable components of our digital society

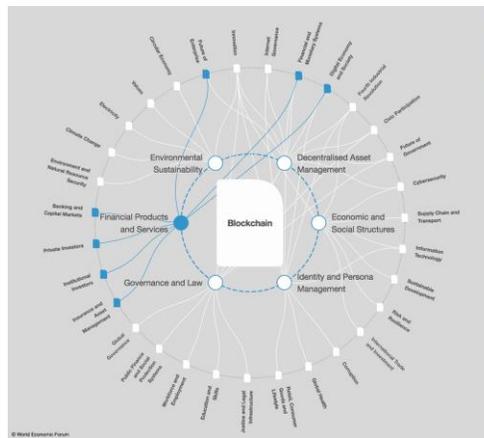
Identity and its management are critical foundations for our everyday interactions as citizens, consumers and employees. Within an increasingly digitalised society and economy, the manner in which identity is managed is critical to ensuring the full-scale benefits of digital technologies are realised. From banking and finance to healthcare, management of identity is critical. Blockchain can help to respond to the need for identity and persons management in the digital world through providing an immutable and contextual identity management – an identity management system that is more adaptive to the changing needs of the world.

Identity management is also critical to enabling the world to reach some of the key sustainable development goals. According to the United Nations' Sustainable Development Goal 16, effective identity management systems can help achieve social protection and assist with dealing in crises and disasters. In addition, it can help create more resilient local economic systems, reduce corruption, remove remittance costs and assist with the empowerment of women.

Blockchain solutions can assist in the creation of robust and resilient digital identity systems that also provide superior transparency to existing systems, allowing citizens to understand all the data stored about them better and also know when others have accessed their data. Key challenges to solve these issues include ensuring the scalability of the blockchain and the protection of individuals' privacy in a broad range of identity management use cases.

**Related Insights**  
Competition • Financial and Monetary Systems • Internal Governance • Innovation • Fourth Industrial Revolution • Global Health • Information Technology • Digital Economy and Society • Retail, Consumer Goods and Lifestyle

## Impacts sur les produits et services financier



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**Financial Products and Services**  
Banks and end users are seeking more secure and cost-effective methods to implement financial products and services and to comply with regulation

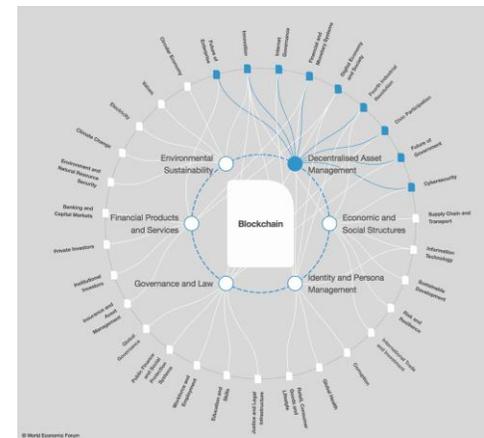
Blockchain technology can help to efficiently meet the need for cost-effective financial products and services that comply with heavier financial regulation. For example, the transparency and auditability requirements in regulations can be more easily met using blockchain.

From a broader perspective, blockchain may be viewed as moving the financial services industry away from process-oriented approaches towards data-based workflows.

Insurance and cross-border transactions are areas where blockchain can provide dramatic improvement to the business processes of multiple industries through new means to manage financial flows. Compliance with international trade regulations can also be improved through the creation of an immutable audit trail of all financial actions taken by different economic entities.

**Related Insights**  
Digital Economy and Society • Future of Enterprise • Insurance and Asset Management • Institutional Investors • Financial and Monetary Systems • Private Investors • Banking and Capital Markets

## Gestion d'actifs décentralisés



**Blockchain**  
4th Industrial Revolution  
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**Decentralised Asset Management**  
End users are seeking an increasing number of innovative asset management systems

The increasing interest in the collaborative or sharing and service economies can be enabled through blockchain. Through its transactional capabilities, it is able to help co-ordinate loosely coupled assets, companies and individuals in order to achieve collective goals. It can help to dramatically reduce transaction costs associated with sharing and 'as a service' modes of operations. It allows for radically new forms of ownership to emerge and form within our economic system.

Blockchain can play a fundamental role in the reconfiguring of how many utility services are provided – for example, it can redefine how communication network services are constructed and delivered through changing how both spectrum and physical infrastructure are delivered, managed and paid for. Within energy and water systems, it can be used to create peer-to-peer energy markets with greater flexibility for end-users and infrastructure owners.

A key challenge in this space is how to measure GDP in a system with a large number of decentralised assets. Through capturing a record of the transactions, blockchain can assist with data collection for measuring the digital economy.

An increasingly digitalised world, however, has meant that the number and type of cyber attacks across the world is growing. In addition, data breaches are becoming more common as the reduced costs of processing and storage worldwide mean more data is being stored for longer periods of time. Additionally, as sensors become more embedded in our day-to-day lives, the scale and types of possible security attacks increase.

A clear understanding of the privacy regulation policies associated with blockchains and similar digital technologies is required to address this need. In addition, a key challenge is to ensure the privacy of end-users and the end-to-end security of the solutions implemented on blockchains.

**Related Insights**  
Future of Enterprise • Innovation • Internal Governance • Financial and Monetary Systems • Digital Economy and Society • Fourth Industrial Revolution • Civic Participation • Future of Government • Cybersecurity

<https://toplink.weforum.org/knowledge/insight/a1Gb00000038qmPEAQ/explore/summary>

# Les nombreuses applications de la Blockchain

- ❑ **Identités digitales**
- ❑ **Sécurisation de données digitales**
- ❑ **Sécurisation de transactions digitales**
- ❑ **Authentification & Autorisation**
- ❑ **Contrats Intelligents**
- ❑ **Sécurisation des objets connectés**
- ❑ **Traçabilité biens & actifs**
- ❑ ...

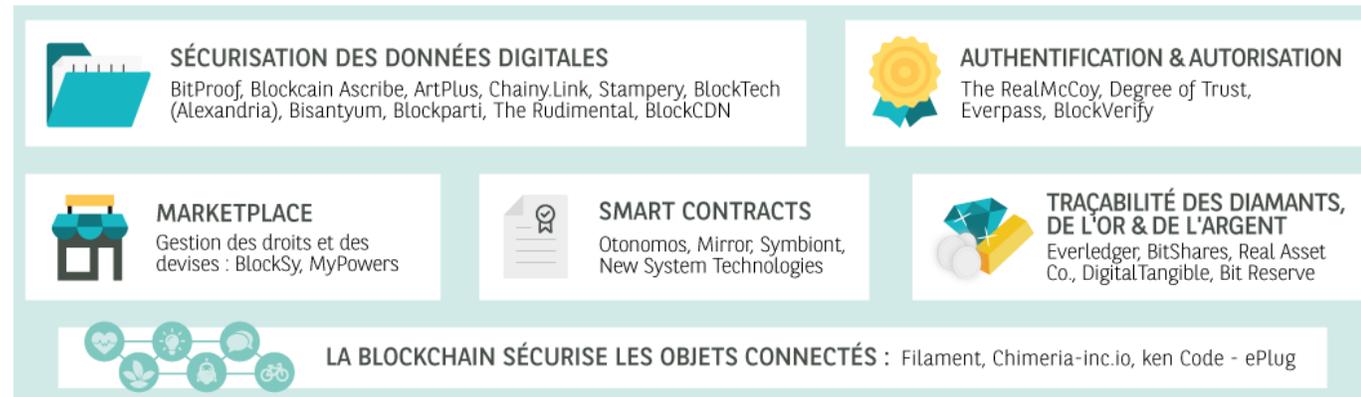
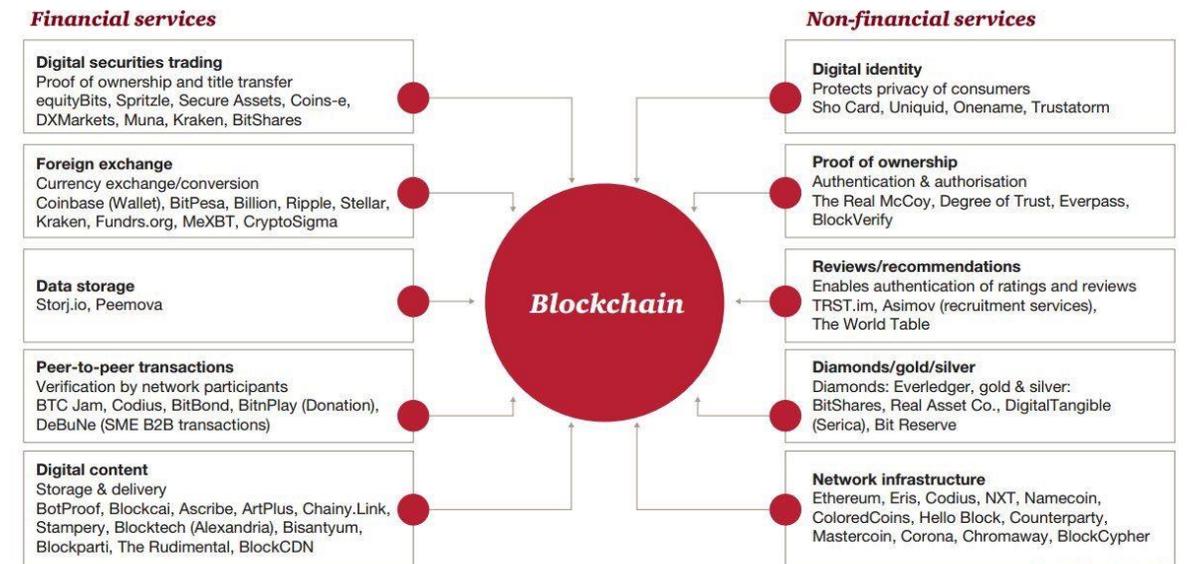
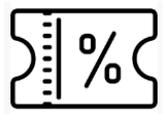


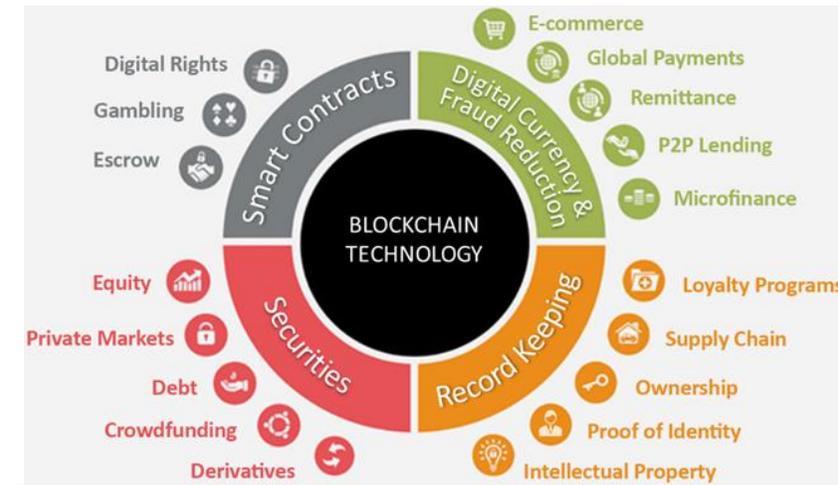
Figure 5: New blockchain applications



source pwc via @mikequindazzi

# Potentialités pour le retail

- ❑ **Faciliter les écosystèmes entre partenaires** 
- ❑ **Sécurisation de données et transactions** 
- ❑ **Enrichir et moderniser les programmes de fidélité** 
- ❑ **Tracer et certifier les biens et marchandises** 
- ❑ **Sécurisation des objets connectés** 
- ❑ ...



## ❑ **Projet initialisé en 2015 afin de répondre**

### ❑ **à des besoins accrus en termes**

❑ **de traçabilité et de sécurité**

❑ **de connectivité et de nouveaux services en magasin et en central**

❑ **aux nouvelles réglementations (Loi Finance 2016, GPDR, ...)**

## ➤ **Travaux R&D CIR 2015 -> 2017**

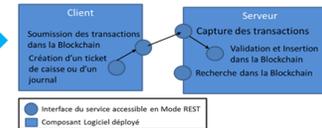


Phase 1 (2016)

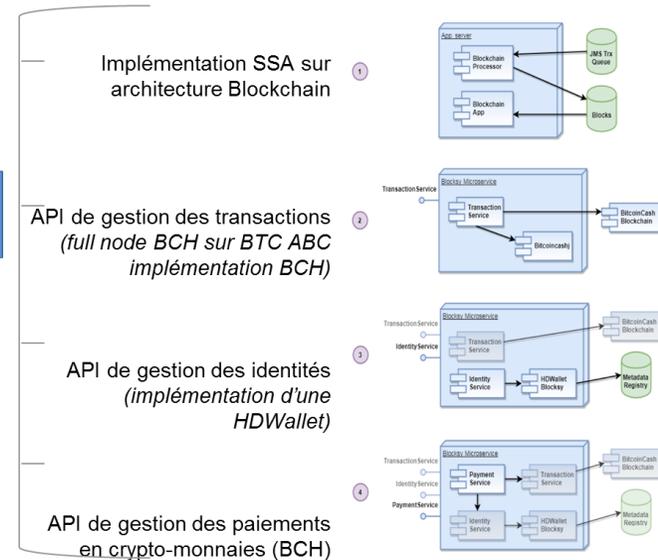
Développement d'un service centralisé sur l'architecture actuelle

Phase 2 (2017)

Développement d'un service décentralisé sur Blockchain Privée  
 Levée des verrous: conception, développement et tests de :  
 • Mécanisme de consensus de transactions cross-canal dans la Blockchain  
 • Mécanisme de sécurisation sur le poste client des transactions

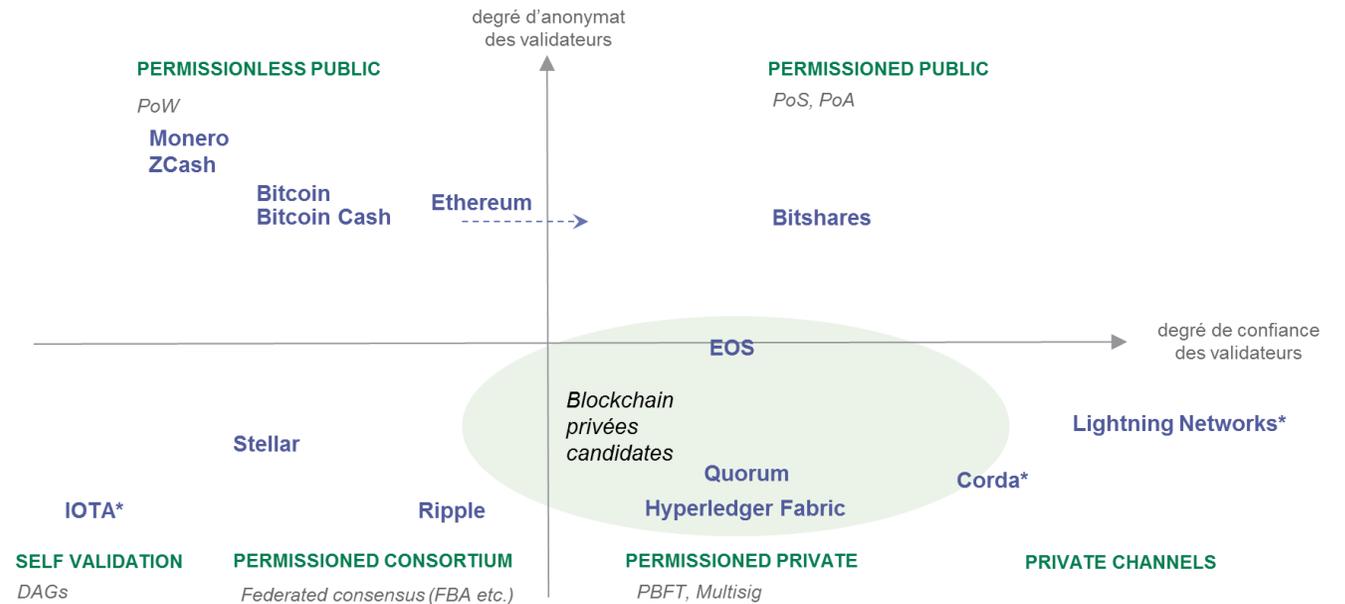


- **BlockSY est totalement indépendant des autres solutions SYMAG**
- **Architecture micro-services**
- **BlockSY expose des APIs au format REST**



# Pourquoi BlockSY

- ❑ Les technologies Blockchain sont émergentes
- ❑ De nombreuses implémentations de la Blockchain cohabitent
- ❑ Des fonctionnalités qui évoluent



# La Blockchain pour plus de transparence

## ❑ Problématique

- ❑ **Gérer la traçabilité des dons dans des écosystèmes ouverts**
- ❑ **Rétablir la confiance auprès des parties prenantes : grand public et associations**

## ❑ Cas pratique

- ❑ **microDON L'ARRONDI**

## ❑ Solution

- ❑ **Une BlockChain**



« La générosité demande toujours plus de preuves et de transparence. L'émergence de la technologie de la confiance quasi absolue à coût maîtrisé, 'les Blockchains', ouvre un univers dans lequel nous sommes très enthousiastes de mener des expérimentations avec Symag by BNP Paribas »

Olivier Cueille,  
Co-fondateur microDON



# La Blockchain comme moteur de nouveaux usages P2P

## ❑ Problématique

- ❑ Gérer des preuves digitales dans un écosystème de mise en relation entre talents et recruteurs ?
- ❑ Récompenser les mises en relation

## ❑ Cas pratique

- ❑ [Eminent.ly](https://www.eminent.ly)

## ❑ Solution

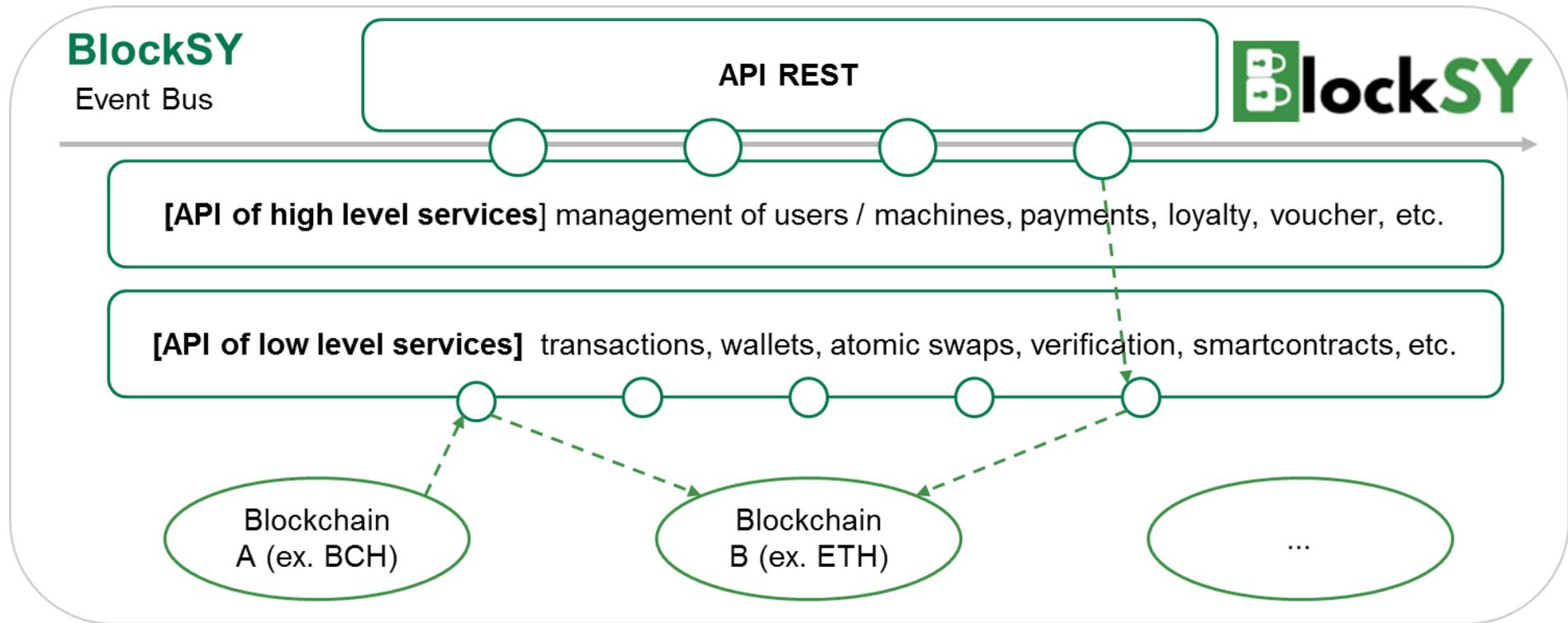
- ❑ Des Blockchain

- ❑  

« La mission d'Eminently est de contribuer à tisser un réseau social ouvert, persistant, prouvable et valorisable par ses usagers. Nous avons misé sur les technologies Blockchain. BlockSY est une formidable opportunité de miser sur ces technologies émergentes et de développer un socle technique pérenne et flexible dans le temps. »  
Romain Pellerin,  
Fondateur Eminently



## □ APIs REST fonctionnelles pour créer des transactions dans la Blockchain



# Blockchain for Social Good



## EXAMPLES



**ENSURE FAIR TRADE CONDITIONS** – traceability of production processes over the whole supply chain



**GREATER TRANSPARENCY** – in public spending and administration



**DEMOCRATIC DECISION-MAKING** – improving citizens' participation



**COLLABORATIVE ECONOMY** – harnessing decentralised social networks or platforms



**MANAGE PROPERTY OR EDUCATION RECORDS** – for students, refugees etc.



**FINANCIAL INCLUSION** – developing tools such as social currencies

# Blockchain for Social Good

## MAIN REQUIREMENTS

**positive impact** on society, environment and/or economics – proven through the adoption by a large community of citizens



improvements in **transparency, accountability, privacy**



**usability and inclusiveness** – a solution for ALL



**viability on a large scale** – solving technical limitations



**European added value** – more effective and efficient solutions than conventional ones



## DEADLINE

**25 June 2019**

## WHO CAN PARTICIPATE?



The contest is open to individuals, groups, organisations and companies.

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Merci de votre attention, les liens pour bien débuter :

➤ L'espace BlockSY du site du Hackdon :



➤ Le wiki de BlockSY :



Notre intervenant Julien BONNEL reste avec vous toute la durée du HackaDON

