# Governing risks and benefits of distributed ledger technologies (DLTs) applications:

## DLTs have the potential to address existing issues of trust and efficiency, but what about new risks that need to be addressed before the technology is widely implemented?

IRGC @ EPFL workshop at the Swiss Re Centre for Global Dialogue, **Zurich**, **15 – 16 June 2017**

### Workshop overview

This workshop will add a risk governance perspective to exploring the innovations that DLTs potentially bring to how transactions are recorded and business is done, for example through smart contracts. The largest expected benefits that DLTs make possible are ***digital trust*** and increased ***efficiency***. However, large-scale implementation requires careful multidisciplinary and multi-stakeholder analysis, and while the technology is enabling, its impacts might be disruptive. Among other aspects, the deployment of DLTs:

- forces us to rethink how we deal with and store ***data***, at a time when other challenging questions about data privacy, protection and overall security also remain unanswered
- may lead to the elimination of certain established ***intermediaries***, at a time when institutions are already under pressure to adapt to change, and when their legitimacy is often questioned
- is not yet accompanied by a ***governance framework*** to provide institutional and societal trust, which would be a requirement for institutions to fully and voluntarily embark on DLTs
- may still need ***trusted actors***, as in the case of permissioned (private) distributed ledgers.

The list of potential benefits and risks involved in DLT applications is long, and the workshop will review them, to get a more comprehensive picture of governance issues that are important to address. However, even before that, some technical challenges need to be considered, among which:

- ***Energy consumption and computing power***: In the current state of technology, large-scale deployment of permissionless (open) DLT-based applications may require large quantities of power
- ***Standardisation and interoperability***: If DLT-based applications are deployed in various sectors without the capacity to communicate using the same standards, they will simply add another layer of complexity
- ***Cyber security***: DLTs can address certain aspects of cyber security problems, but not all.

To embed these considerations into the practice of policies, regulations and business, this workshop will focus on three fields of application for illustration and discussion:

- ***The health sector***, which is going through the revolution of biomedical data sciences. The medical practice is currently challenged by the emergence of precision medicine, which requires large sets of data: biomedical data (including genomics), data from medical records and data from lifestyle and the environment (often provided by wearables and other connected sensors). A major challenge that the health sector is facing is: How can we improve the way we collect, save and share data, in a way that is effective (to improve the medical practice) but also respectful of privacy and confidentiality? How can DLTs help here?

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- ***The institutional governance domain***, and in particular new ways to improve efficiency in administration (e.g. in notarization), to embed democracy in practice (e.g. with secure e-voting), and either help restore trust in current institutions or transform existing institutions into more performant systems without compromising on legitimacy. A key question is whether one central government entity should be responsible for the facilitation of distributed ledgers.
- ***The (re-)insurance sector***, because of its capacity to diffuse the use of instruments that provide safety and security to people and organisations and its pioneering role in considering DLTs. In the same way as the insurance requirement to install fire detectors reduces the risk of fire, an insurance-led initiative to use DLTs and smart contracts in order to facilitate faster, cheaper and more secure transactions in case of a claim, could be good for the economy and society. While the workshop will not address applications of DLTs in the financial sector for cryptocurrencies, institutional challenges posed by disintermediation will be discussed.

## Workshop objective

**Providing recommendations on technological and governance options**: How to create appropriate governance and regulatory context conditions for DLTs through improved understanding of the risks and opportunities related to their implementation in selected sectors.

## Participants

25 to 30 experts from research, technology, industry, regulation, insurance and other stakeholder groups who are interested in collaborative and multidisciplinary approaches to improving the risk management, innovative capacity and applications of DLTs.

## Background paper

A concept note will be produced by IRGC and distributed among the workshop participants ahead of the event. It will include a list of questions for discussion and will set the scene for the oral contributions.

## Outcome

A two-pager will highlight major findings from the workshop. A more elaborate report will also be produced. The **audience** of these papers will be any actors interested in working collaboratively with others to create appropriate context conditions for the development of DLTs, and to build policy and societal trust in the use of the technology with relevant governance regimes.

## Location

The workshop will be held at the Swiss Re Centre for Global Dialogue, in Rüschlikon, near Zurich. Accommodation is available on site.

## Agenda outline (draft)

**Thursday 15 June**

16:00-19:00

Session 1: DLTs and their promises for distributed trust and smart contracts

Session 2: Technological aspects: How do various DLTs work (or not) in practice for securing transactions, preserving privacy and confidentiality, avoiding fraud, and guaranteeing availability.

**Friday 16 June**

8:30-12:00

Session 3: Potential wide-scale applications: Discussion of current problems and requirements in each sector, technological solutions, conditions for DLTs to be useful, governance considerations

- Health
- Institutional governance
- Insurance

13:00-16:00

Session 4: Common themes across applications and sectors

Session 5: Concluding remarks and way forward