



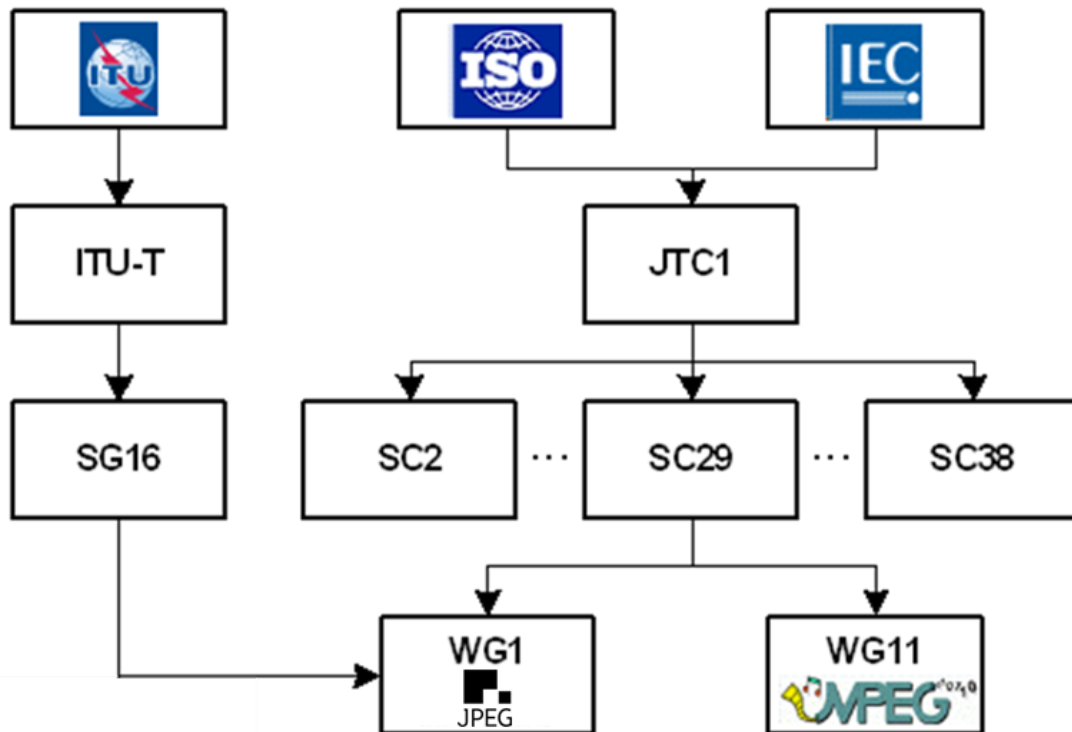
# Overview of JPEG Activities

**Fernando Pereira**

JPEG Requirements Subgroup Chair



# What is JPEG?



- Joint Photographic Experts Group
  - ISO/IEC
  - ITU-T
- Informally known as JPEG
  - WG1 in official communications



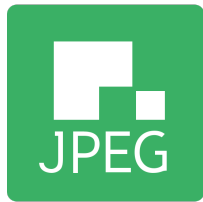
# JPEG Family of Standards



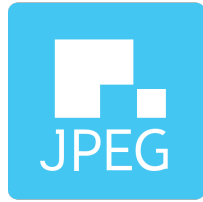
■ JPEG ■



■ XR ■



■ XT ■



■ 2000 ■



■ LS ■



■ XS ■



■ XL ■



■ Pleno ■



■ Systems ■



■ AIC ■



■ JPSearch ■



# Main objective of JPEG

- Contribute to **enabling** imaging/media **ecosystems**





# Biggest challenge in JPEG

- Anticipate trends and future needs in imaging/media





# How to predict future?

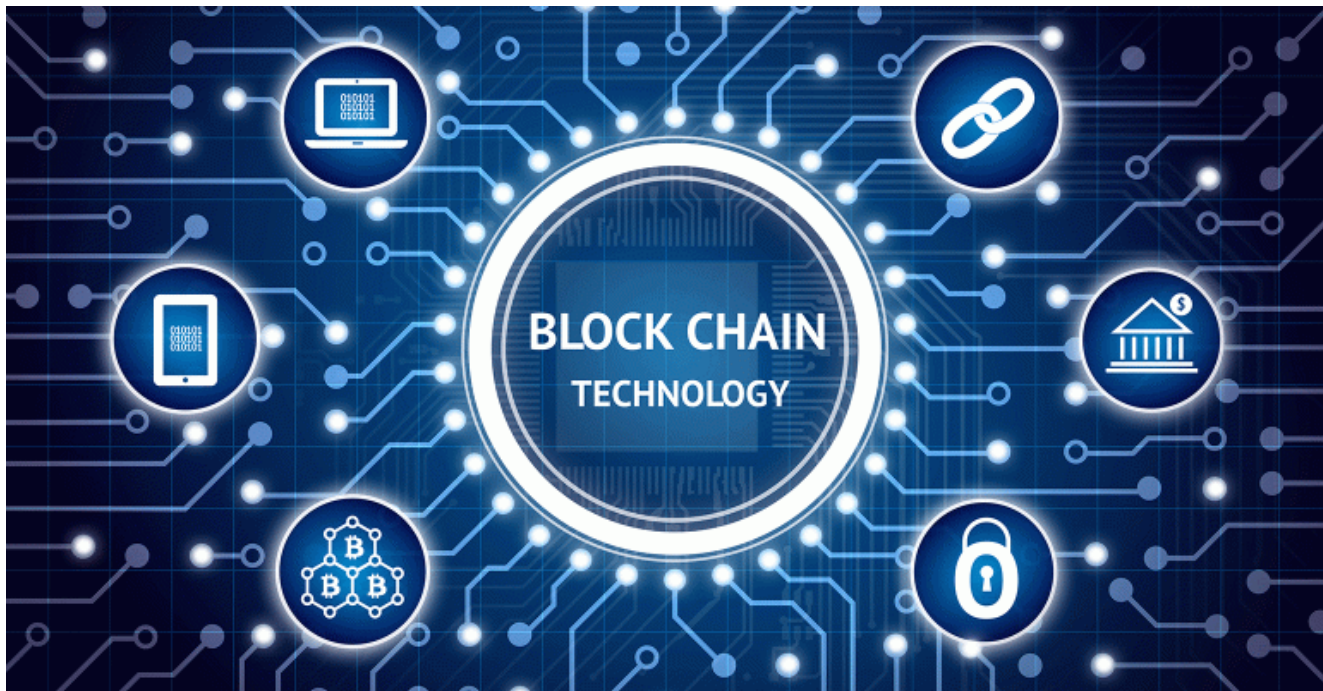




# Working together



# Blockchain and DLTs







- 
- A word cloud visualization centered around the word 'Impact', which is the largest and most prominent. Other significant words include 'risk', 'analysis', 'opportunity', 'process', 'cost', 'treatment', 'plan', 'strategy', 'resources', 'research', 'important', 'organization', 'project', 'sales', 'management', 'monitor', 'implementation', 'planning', 'complex', 'data', 'identification', 'probability', 'assessment', 'retribution', 'performance', 'organization', 'retention', 'management', 'assessment', and 'project'. The words are arranged in a circular pattern around the central 'Impact'. A hand holding a black pen is visible in the bottom right corner, pointing towards the word 'Impact'.

# The first steps ...



Requirements





# **1<sup>st</sup> JPEG Workshop on Media Blockchain**

**16 October 2018, Vancouver, Canada**

**15:00-15:05 ISO JPEG committee overview** (Touradj Ebrahimi)

**15:05-15:30 Overview of JPEG Privacy & Security and relation to Blockchain** (Frederik Temmermans)

**15:30-16:00 The multimedia blockchain: challenges and perspectives** (Eric Paquet)

**16:15-16:45 Managing Digital Information on Blockchains and Distributed Ledgers as Evidence** (Victoria Lemieux)

**16:45-17:15 Consensus models for blockchain media transactions** (Stephen Swift)

**17:15-18:30 Panel Discussion** (Moderator: Fernando Pereira)



# 2<sup>nd</sup> JPEG Workshop on Media Blockchain

**22 January 2019, Lisbon, Portugal**

**16:00-16:20 JPEG in a Nutshell** (Touradj Ebrahimi)

**16:20-16:40 JPEG Privacy and Security Activities** (Frederik Temmermans)

**16:40-17:20 Blockchain, Distributed Trust and Privacy** (Zekeriya Erkin)

**17:20-17:50 An overview of ISO/TC 307 - Blockchain and distributed ledger technologies** (Carlos Serrão)

**17:50-18:30 Panel Discussion** (Moderator: Fernando Pereira)



# 3<sup>rd</sup> JPEG Workshop on Media Blockchain

20 March 2019, Geneva, Switzerland

14:00-14:05 **Overview of JPEG Activities** (Touradj Ebrahimi)

14:05-14:20 **Privacy-preserving photo sharing based on blockchain** (Pablo Pfister)

14:20-14:35 **JPEG Privacy and Security Activities** (Frederik Temmermans)

14:35-15:00 **Adopting Blockchain in Image Security** (Deepayan Bhowmik)

15:00-15:30 **Use of blockchain for data privacy and protection**, (Bryan Ford)

16:00-16:30 **An Introduction of ITU-T DLT Standardization** (Wei Kai)

16:30-16:45 **Image forgery detection - A use case for blockchain and distributed ledger technologies** (Anthony Sahakian)

16:45-17:00 **FabToken: Tokenization on HyperLedger Fabric** (Kaoutar Elkhiyaoui)

17:00-18:00 **Panel Discussion** (Moderator: Fernando Pereira)



# 4<sup>th</sup> JPEG Workshop on Media Blockchain

**16 July 2019, Brussels, Belgium**

14:00-14:05 **Overview of JPEG Activities** (Fernando Pereira, IST-IT)

14:15-14:30 **JPEG Privacy and Security Activities** (Frederik Temmermans, imec-VUB)

14:30-15:00 **Blockchain & Privacy: Two cases from the government field** (Kristof Verslype, Smals)

15:00-15:30 **Trusted Archives of Digital Public Documents** (John Collomosse, University of Surrey, CVSSP)

16:00-16:30 **Blockchain for content licensing** (Robert Learney, Digital Catapult)

16:30-17:00 **Blockchain Application Domains & Use Cases for Media & Entertainment** (Jérôme Pons, Music won't stop)

17:00-18:00 **Panel Discussion & Closing** (Moderator: Fernando Pereira)



# Possible outcomes

## ~~• Do nothing ...~~

- Provide input in form of use cases, requirements and contribution to other standardization bodies that are better fit
  - Best practices: Technical report(s) on how JPEG existing standards can interact with blockchain and DLTs
- Initiate standardization activities in JPEG to create specifications for media blockchain
  - Extension of existing specifications: How amend and/or extend existing JPEG standards to better cope with blockchain and DLTs
  - Initiate standards and specifications to enable interoperability between new applications that benefit from blockchain and DLTs



let the  
**adventure**  
begin...