

# INTRODUCTION TO THE KEYNOTE SPEECH BY 2018 MILLENNIUM TECHNOLOGY PRIZE WINNER TUOMO SUNTOLA

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Smart Collaboration – Exploring Opportunities

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# MILLENNIUM TECHNOLOGY PRIZE EXCELLENCE & RELEVANCE

Established

State of Finland, academic institutions, high tech industry

One million Euro Award every second year since 2004

For radical innovations

Change the world to the better

Proven commercial success

Technology Academy Finland TAF

Awards the MTP Prize

Manages global calls and international evaluations

# DEFINITIONS: INVENTION, INNOVATION

## INVENTION

New concept, method, device or process **resulting from research, not applied**

## INNOVATION

An invention that **is applied**

### Incremental innovation

Based on **pre-existing knowledge**

**Improves** of pre-existing innovation

Meets needs of **pre-existing markets**

### Radical innovation **MILLENNIUM TECHNOLOGY PRIZE**

**Revolutionary** technological or social innovation

**Changes** the world to the better

Creates **new markets**

Emanates mostly from **frontier research**

# EXAMPLES OF HOW RADICAL INNOVATIONS CHANGE THE WORLD

## **2004 Tim Berners-Lee for world wide web that started digital revolution**

Changed work, business, manufacturing, transport, communication  
Almost 1/5 of world economy based on internet

## **2006 Suji Nakamura for materials for LED lighting**

New technology taken over 80% of lighting market  
Created new manufacturing, service and design markets

NOBEL Prize after MTP

## **2012 Shinya Yamanaka for stem cell technology**

Ethical technology (stem cells adult, not embryonal) for creation of lab-grown human spare parts to replace diseased tissues and organs

NOBEL Prize after MTP

# MILLENNIUM TECHNOLOGY PRIZE Hall of Fame

2016



FRANCES  
ARNOLD  
Directed Evolution

2010



MICHAEL  
GRÄTZEL  
Dye-Sensitized Solar Cell

2014



STUART  
PARKIN  
Increased Data Storage Density

2008



ROBERT  
LANGER  
Controlled Drug Release

2012



LINUS  
TORVALDS  
Open Source Operating System

2006



SHUJI  
NAKAMURA  
Blue and White LED

2004



SHINYA  
YAMANAKA  
Ethical Stem Cell Research



TIM  
BERNERS-LEE  
World Wide Web

**TAF**

TECHNOLOGY  
ACADEMY  
FINLAND





2018 Millennium Technology Prize

**TUOMO SUNTOLA**

**Enabling Smart Technology**

# 2018 Millennium Technology Prize is awarded by

**TAF**

TECHNOLOGY  
ACADEMY  
FINLAND

In cooperation with



**NOKIA**

**NESTE**

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