

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

Marja Makarow
Chair of Technology Academy Finland

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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

Outotec