



# Beyond 5G Fund Projects



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萩本 和男 NICT 主席研究員

- 1980年 日本電信電話公社入社  
横須賀電気通信研究所にて光ファイバ通信の研究に従事
- 1994年 NTT伝送システム研究所グループリーダー
- 1998年 NTT長距離事業本部担当部長
- 2000年 NTT未来ねっと研究所 部長
- 2005年 NTT未来ねっと研究所 所長
- 2009年 NTT先端技術総合研究所 所長
- 2013年 NTTエレクトロニクス(株) 代表取締役社長
- 2019年 同フェロー (現在に至る)
- 2021年 情報通信研究機構 主席研究員

光ファイバ通信システムの研究開発で、2023 Japan Prize、IEEE Fellow、IEICE名誉員など受賞

# Vision of Beyond 5G network: support upcoming CPS

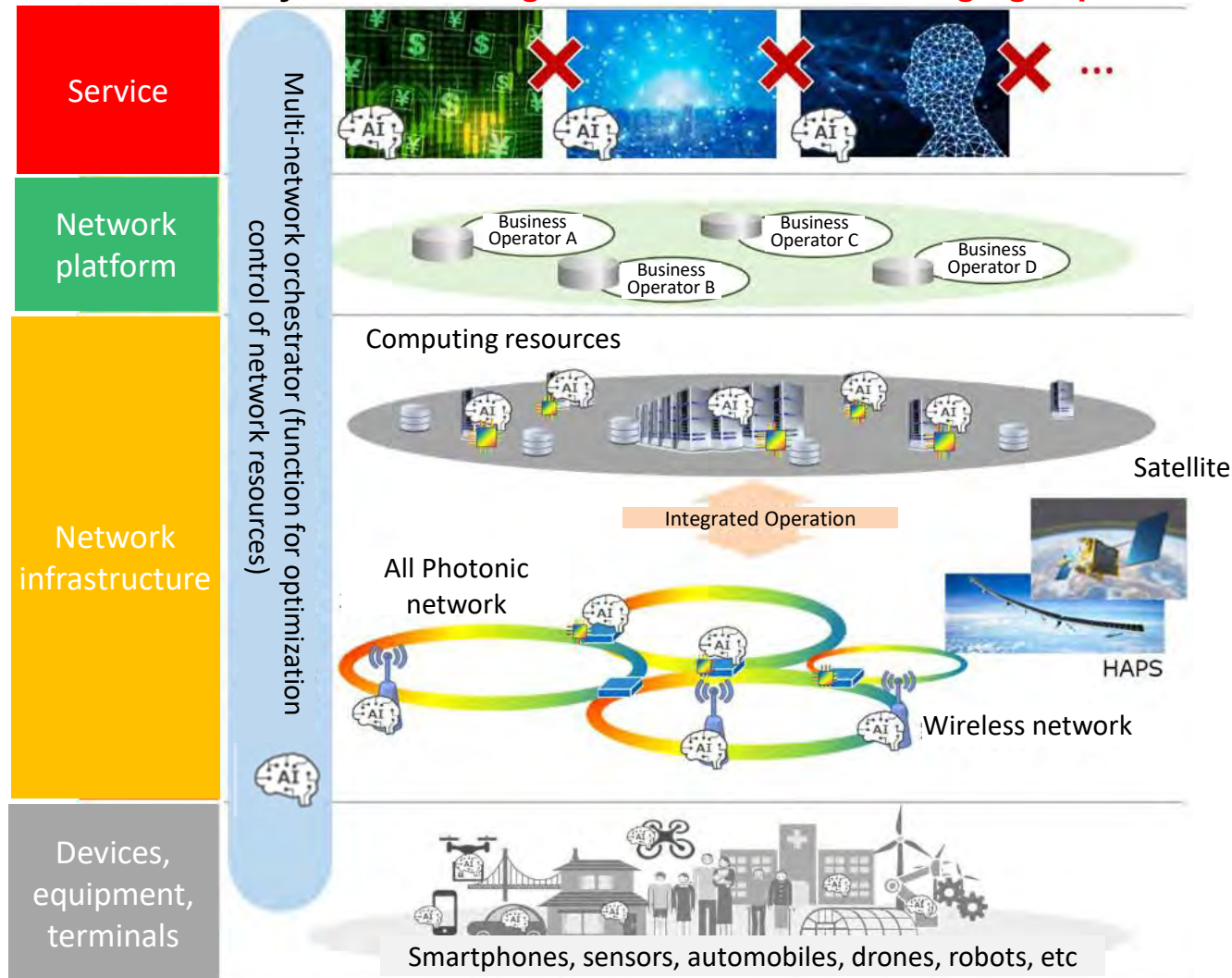
## 【Goals to reach】

Digital Garden City Nation Infrastructure with 100% land-air sea coverage of Japan

Double the electric power efficiency of the overall communication network 2040 carbonneutrality of the information

Secure 10% of essential patents and 30% share of the global market to lead the world market

## Network Architecture for Beyond 5G Aiming to Achieve a Game-Changing Impact in the Global Market



# Shift up: Research, Development and Deployment

- Research



Create a world where trust can be shared with users.

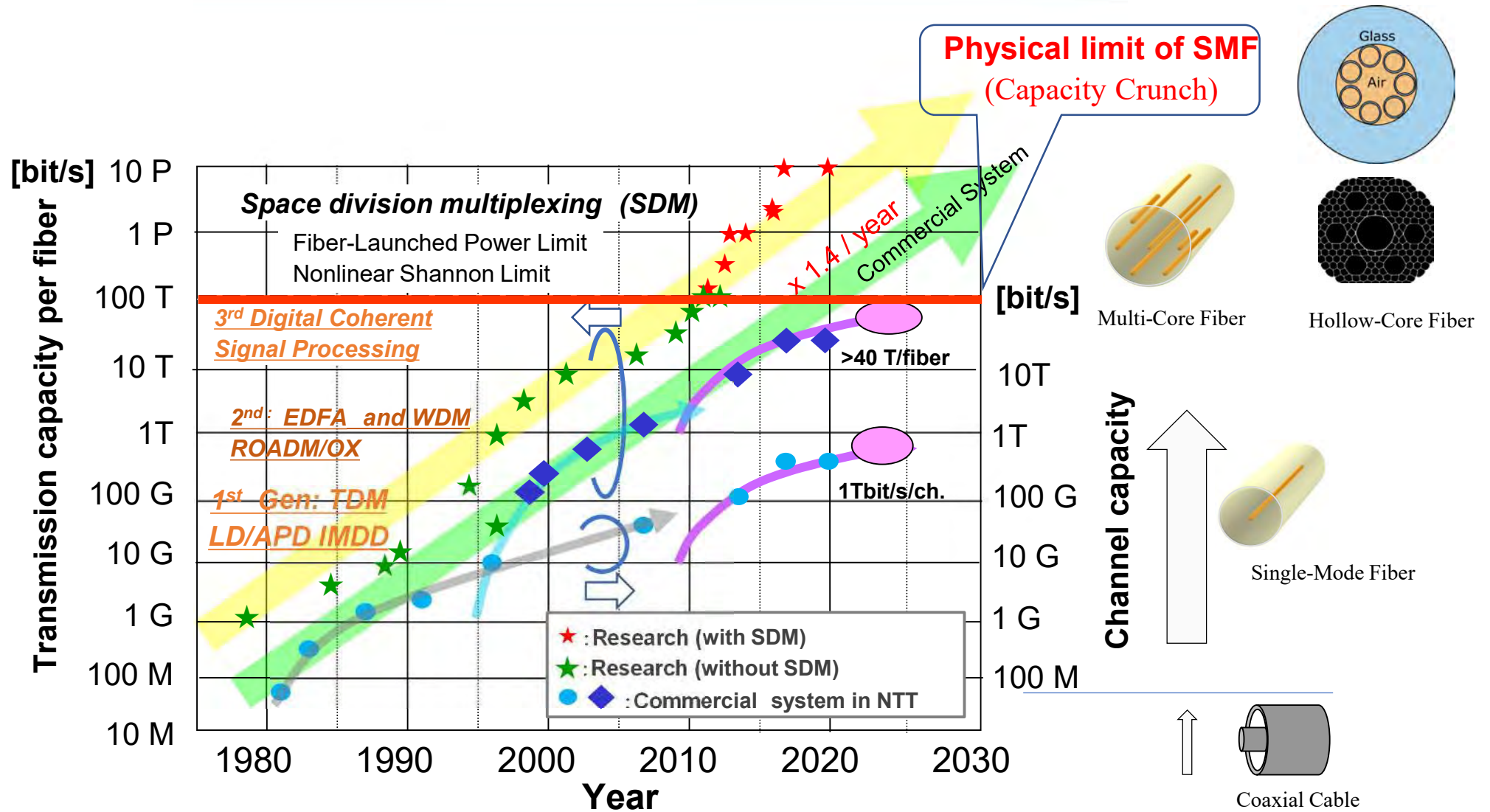
- Deployment and Operation

Sustained use and continuous support are essential.

In infrastructure businesses such as telecommunications, continuity and reliability are particularly critical.

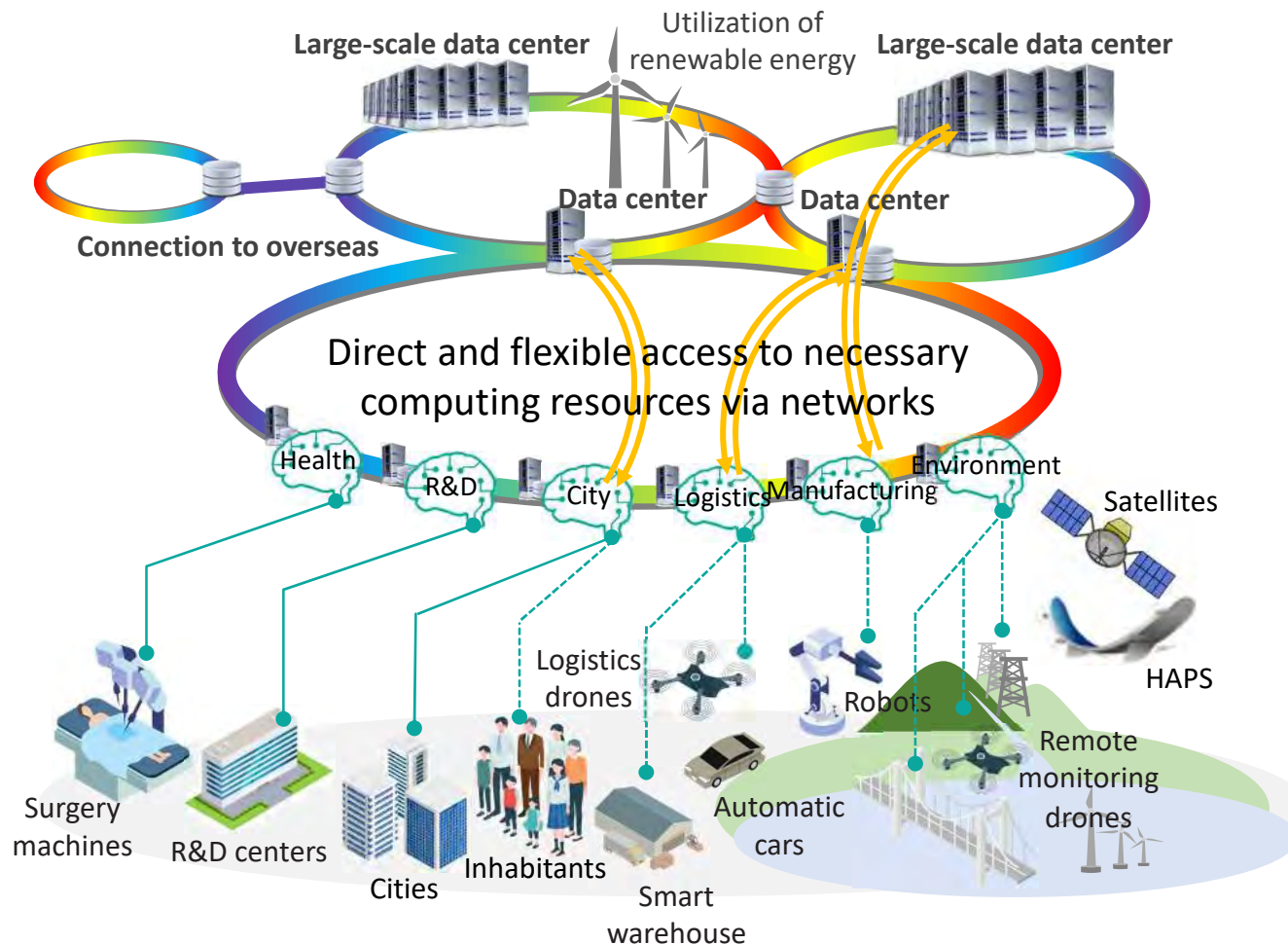
When services are used continuously, complaints often outweigh praise, but this reflects the fact that they support real society!

# Progress in R&D and Practical Implementation of Ultra-High-Capacity Optical Communication Systems



# AI Photonics Network (APN)

- APN enables **ultra-high-speed**, **ultra-low-power**, and **ultra-low-latency communication** by using **end to end photonic technologies**.
- Underpinning huge and time-sensitive data transmission for large-scale AI processing in the AI era, APN plays an essential role in Next-Generation Digital Infrastructure.



**Contributes to shaping the global digital infrastructure in the AI and beyond 5G era**

**e.g., IOWN Global Forum**

ウィル・スミス

Movie titled "I, ROBOT" in 2004 predicted that 1/3 of the population will be ROBOT by 2035.

Japanese population has been decreasing since 2006.

We have to move more efficient and challenging society utilize Physical AI technology.

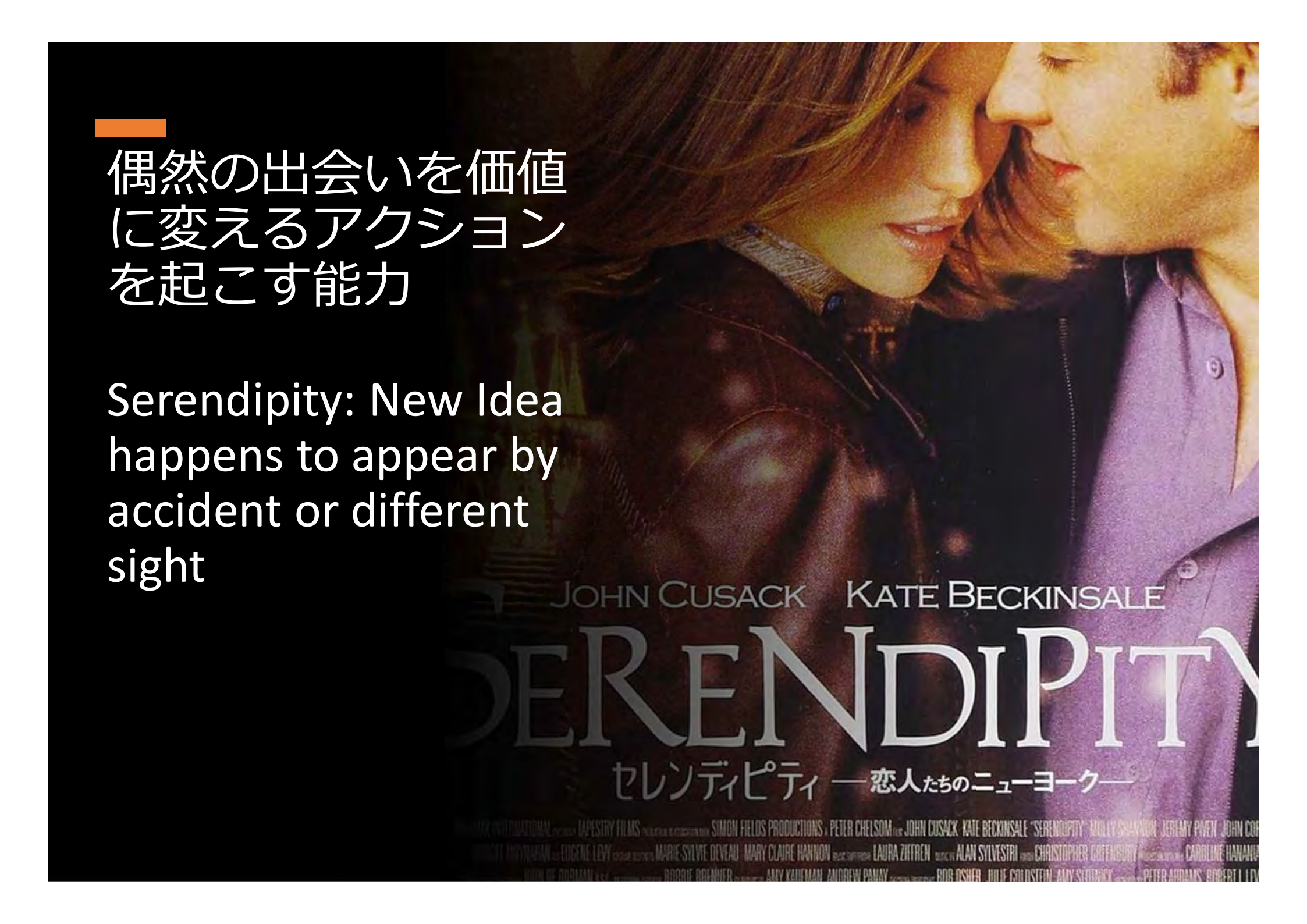
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偶然の出会いを価値  
に変えるアクション  
を起こす能力

Serendipity: New Idea  
happens to appear by  
accident or different  
sight

JOHN CUSACK KATE BECKINSALE

# SERENDIPITY

セレンディピティ — 恋人たちのニューヨーク —

MARK GOODWIN PRODUCTION PRESENTS TAPESTRY FILMS A SIMON FIELDS PRODUCTION A PETER CHELSON FILM JOHN CUSACK KATE BECKINSALE "SERENDIPITY" MOLLY SHANNON JEREMY PIVEN JOHN COF  
MATT ANDERSON AND EUGENE LEVY COSTUME DESIGNER MARIE SYLVIE DEVEAU MARY CLAIRE HANNON MUSIC SUPERVISOR LAURA ZITREN MUSIC BY ALAN SYLVESTRY EDITOR CHRISTOPHER GREENBURY PRODUCTION DESIGNER CAROLINE HANAU  
JOHN DE BOERMAN EXECUTIVE PRODUCER ROBBIE DREHNER PRODUCED BY AMY KAUFMAN ANDREW PAMAY EXECUTIVE PRODUCERS BOB OSHER HILIE GOLDSTEIN AMY SUTHERBY PRODUCED BY PETER ADAMS ROBERT I. LEV