

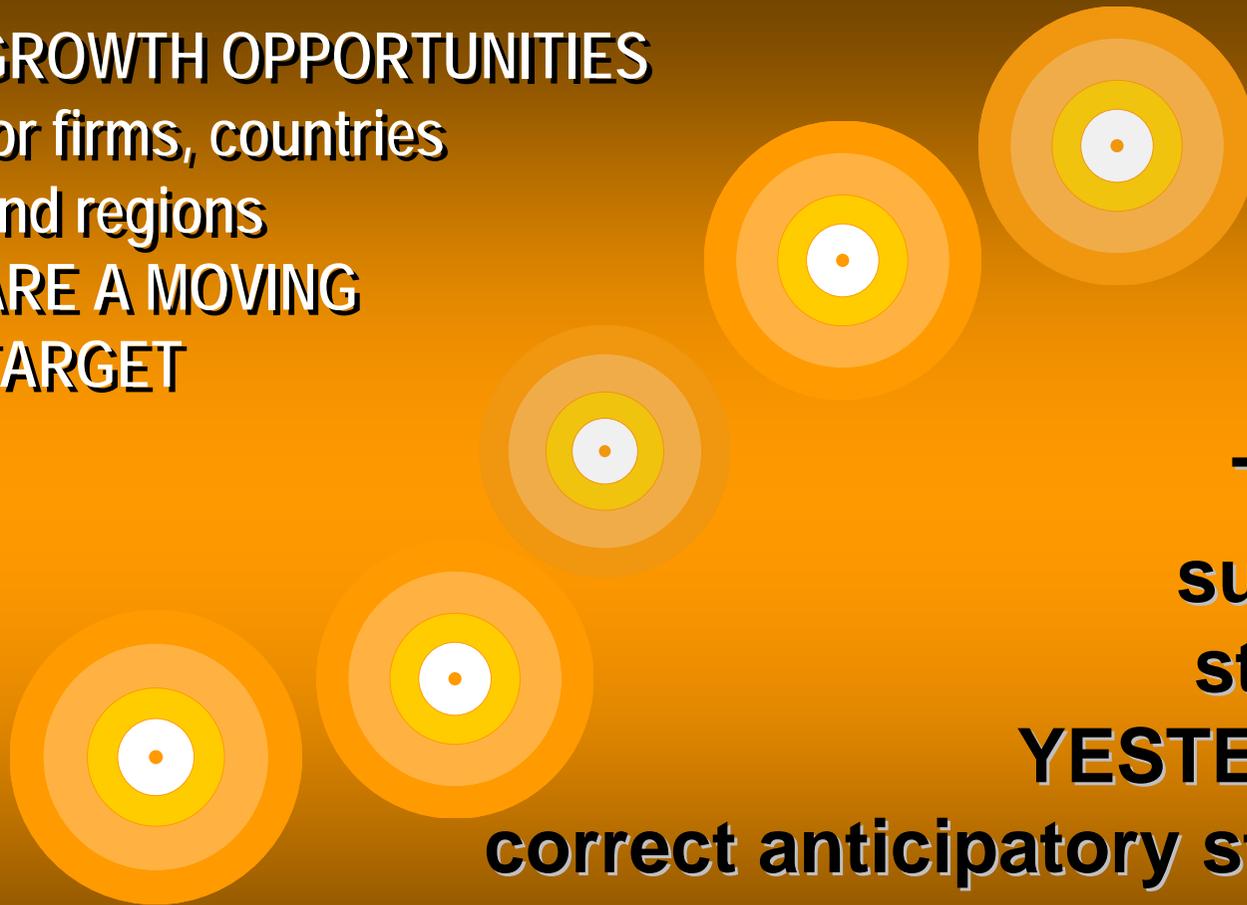
**THE NEW  
TECHNO-ECONOMIC  
PARADIGM**

**and the importance of ICT policy  
for the competitiveness  
of the whole economy**

**Carlota Perez**

**High Level Conference "Looking into the future of ICT"  
Amsterdam, September 2004**

**GROWTH OPPORTUNITIES**  
for firms, countries  
and regions  
**ARE A MOVING**  
**TARGET**



**TODAY's**  
**successes**  
**stem from**  
**YESTERDAY's**  
**correct anticipatory strategies**

**We need to imagine what TOMORROW will be like**

HOW CAN WE  
LOOK AHEAD  
WITH SOME  
DEGREE  
OF  
CERTAINTY



**Important lessons from historical regularities**

## RESEARCH ON TECHNOLOGICAL REVOLUTIONS REVEALS A RECURRENT LONG TERM DYNAMIC

### REGULAR SEQUENCES

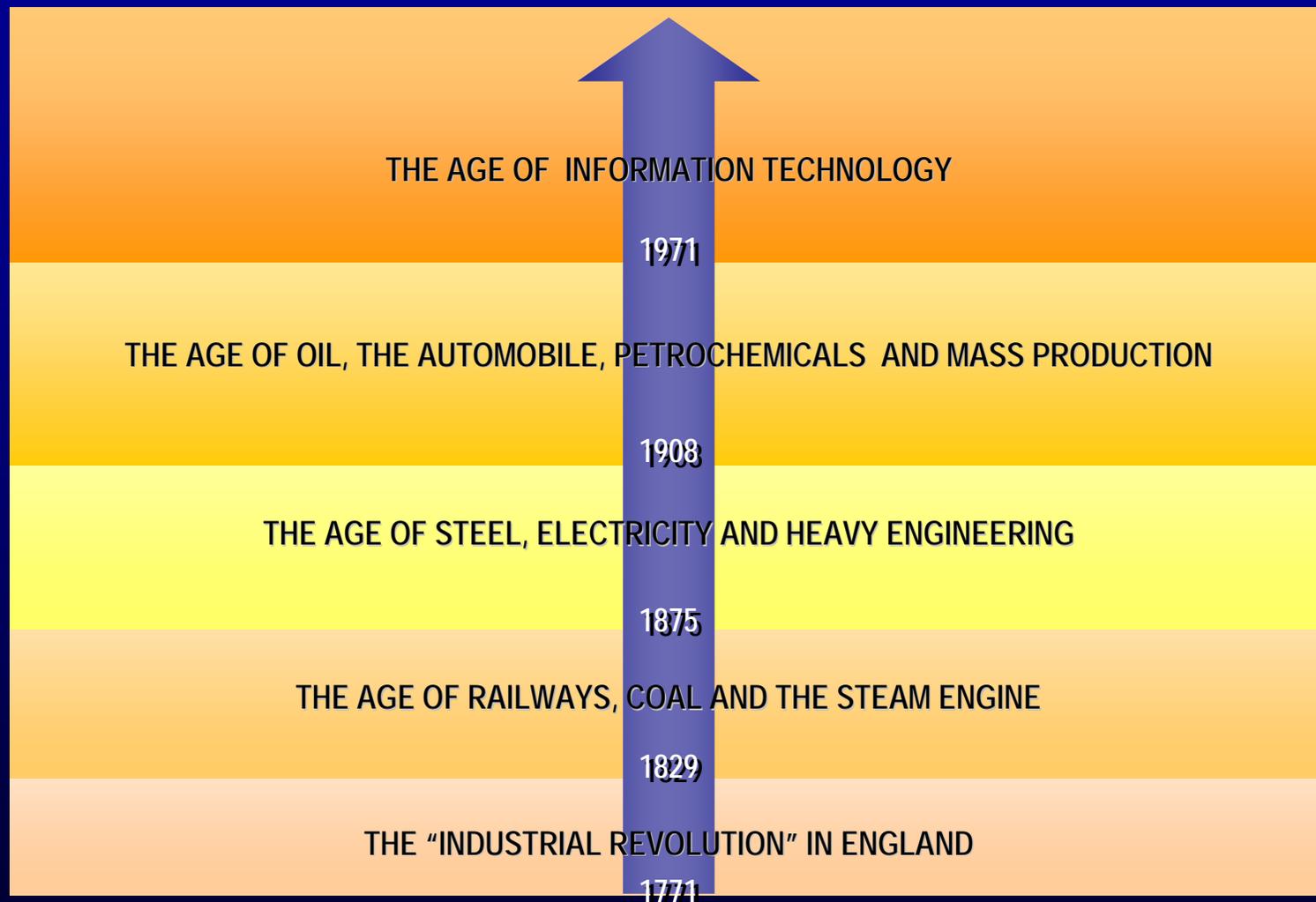
- Successive revolutions every 40-60 years
- A financial bubble collapses at about mid-diffusion
- A diffusion sequence of 8-12 year phases (with a marked change in business climate)

### SYSTEMIC UNIQUENESS

Economic success for the whole 40-60 years of each technological revolution:

**DEPENDS ON  
A DIFFERENT AND SPECIFIC  
PARADIGM**  
which defines best competitive practice

## FIVE TECHNOLOGICAL REVOLUTIONS IN 200 YEARS



**Each brings major changes in the world economy**

# DOUBLE NATURE OF EACH TECHNOLOGICAL REVOLUTION

## NEW DYNAMIC INDUSTRIES

A powerful cluster of new products and processes and new infrastructural networks

## A NEW TECHNO-ECONOMIC PARADIGM

New all-purpose technologies, new organisational principles, different business models and low-cost facilitating infrastructure



NEW FIRMS AND INDUSTRIES BECOME ENGINES OF WORLD GROWTH

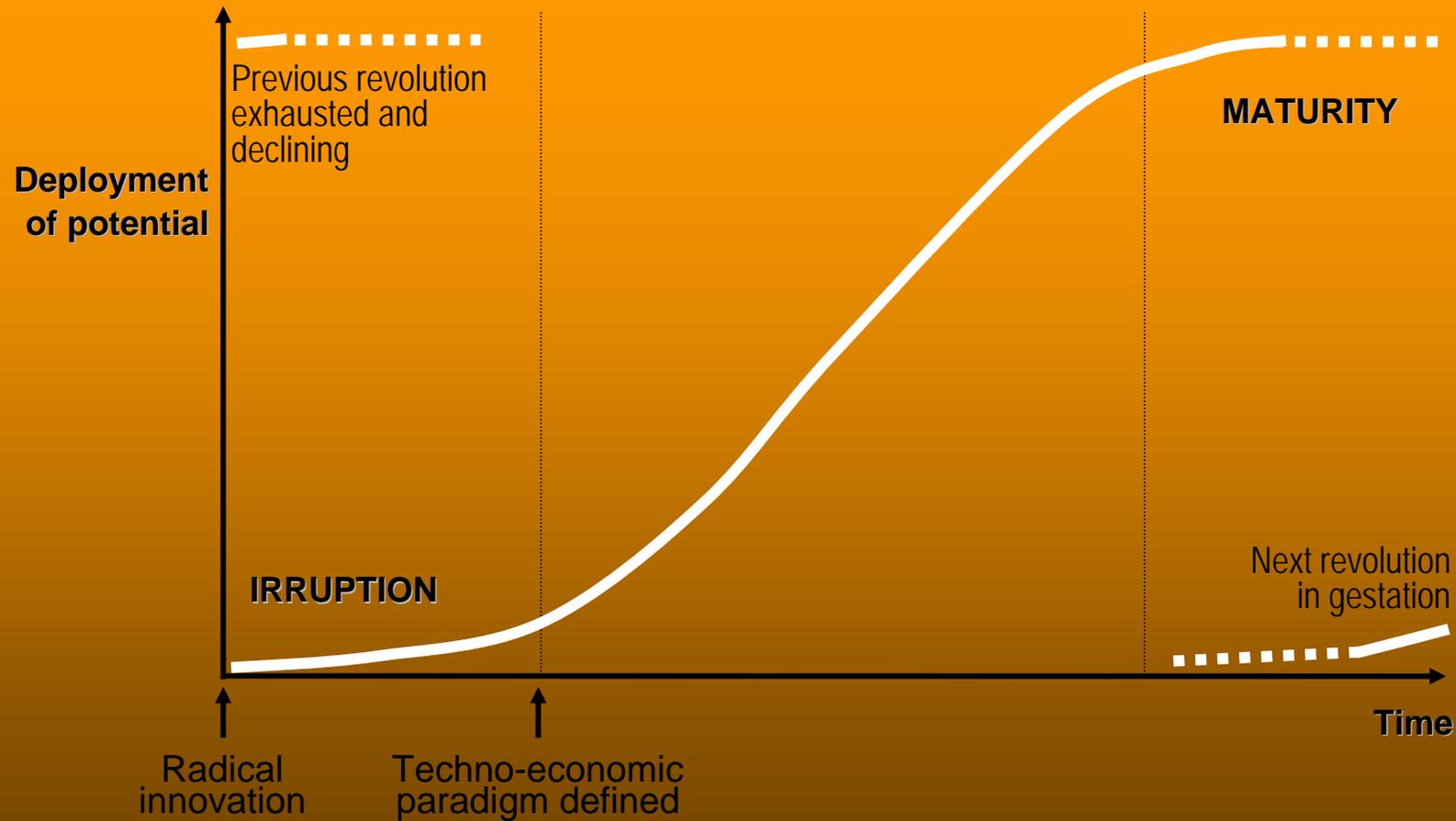


Massive structural change

A QUANTUM JUMP IN PRODUCTIVITY FOR ALL ACTIVITIES

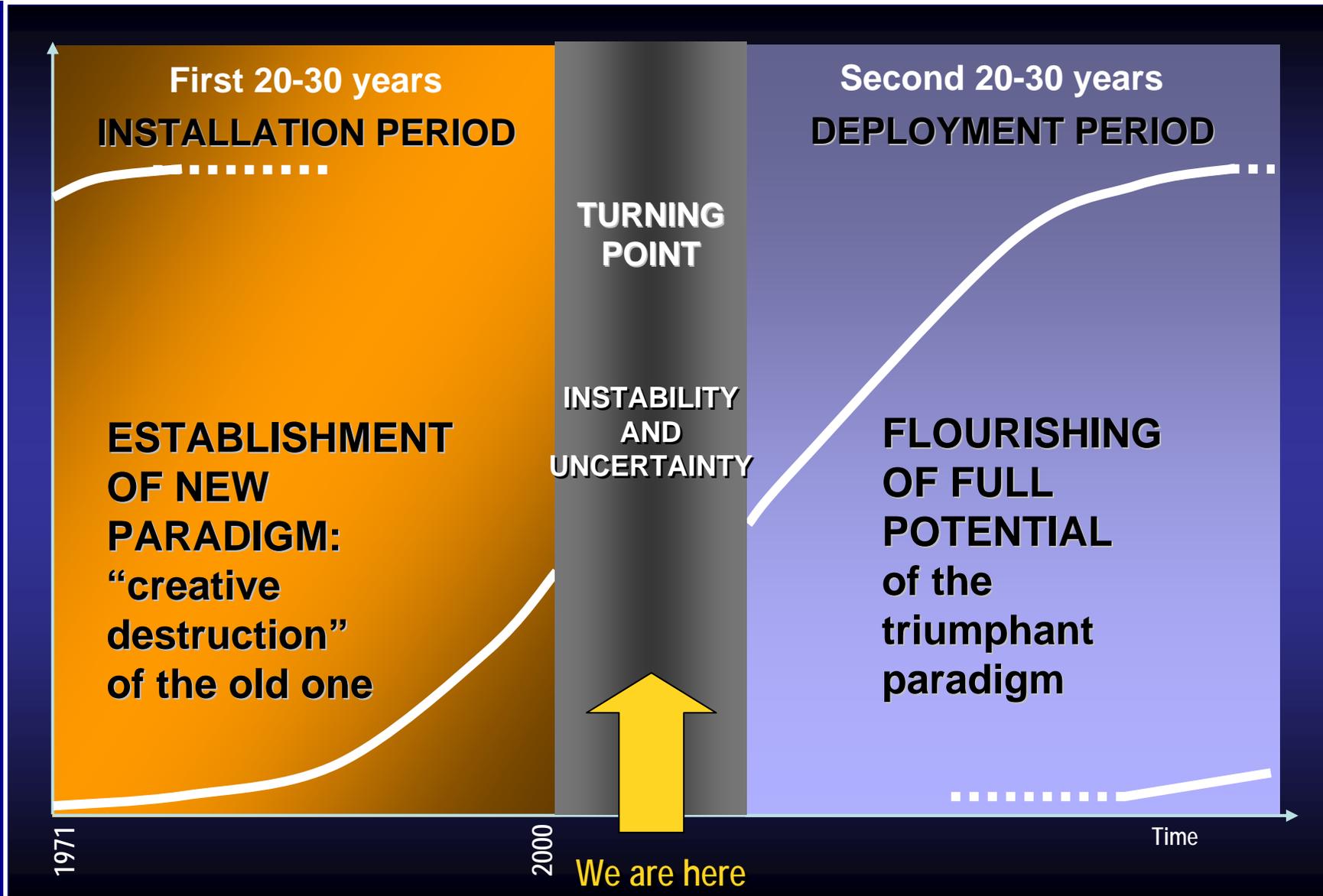
Rejuvenation and modernisation of the whole economy

# THE LIFE TRAJECTORY OF A TECHNOLOGICAL REVOLUTION

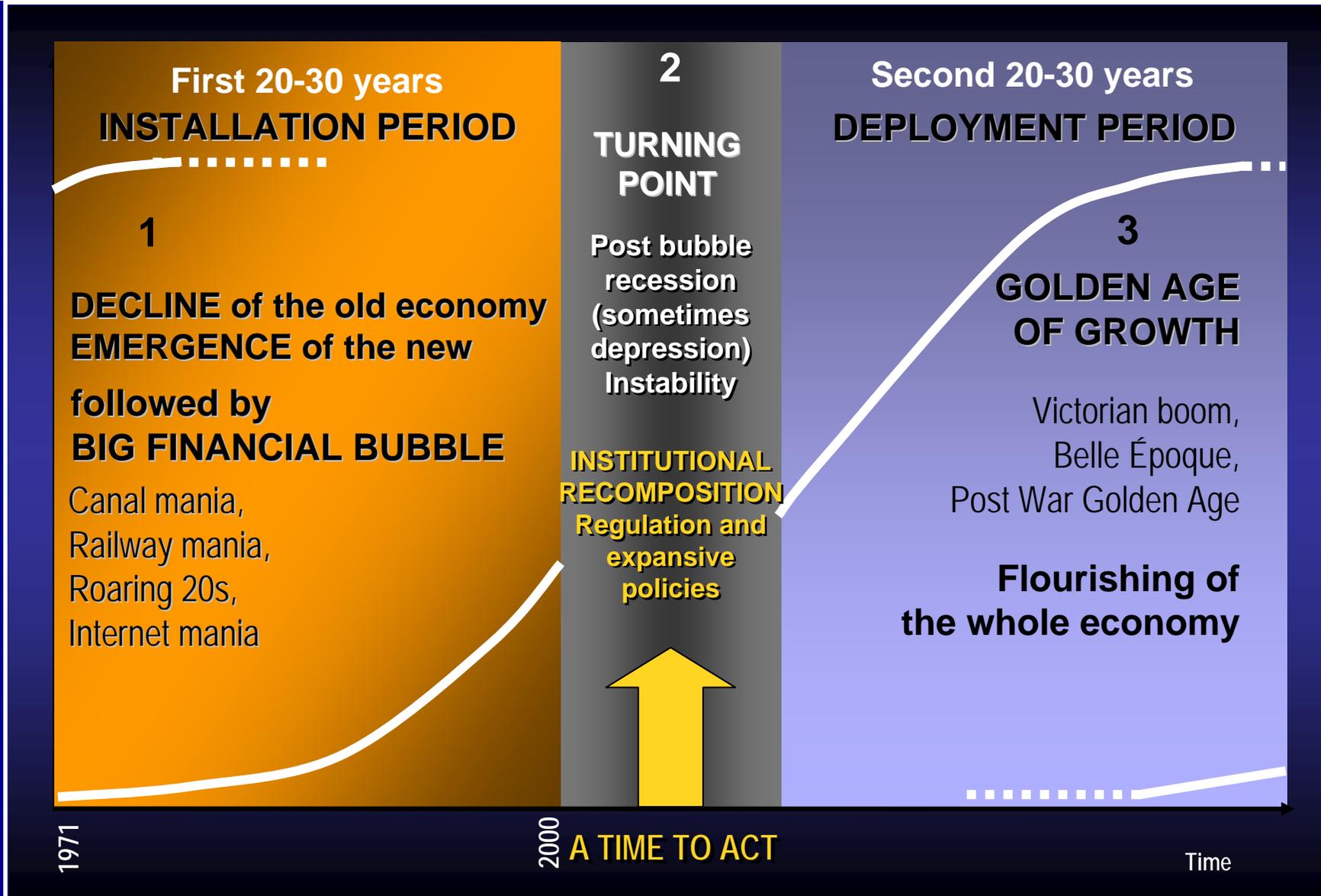


**FORTY TO SIXTY YEARS FROM IRRUPTION TO MATURITY**

**But historically the pattern is broken in two**



**THREE VERY DIFFERENT SOCIO-ECONOMIC CLIMATES**



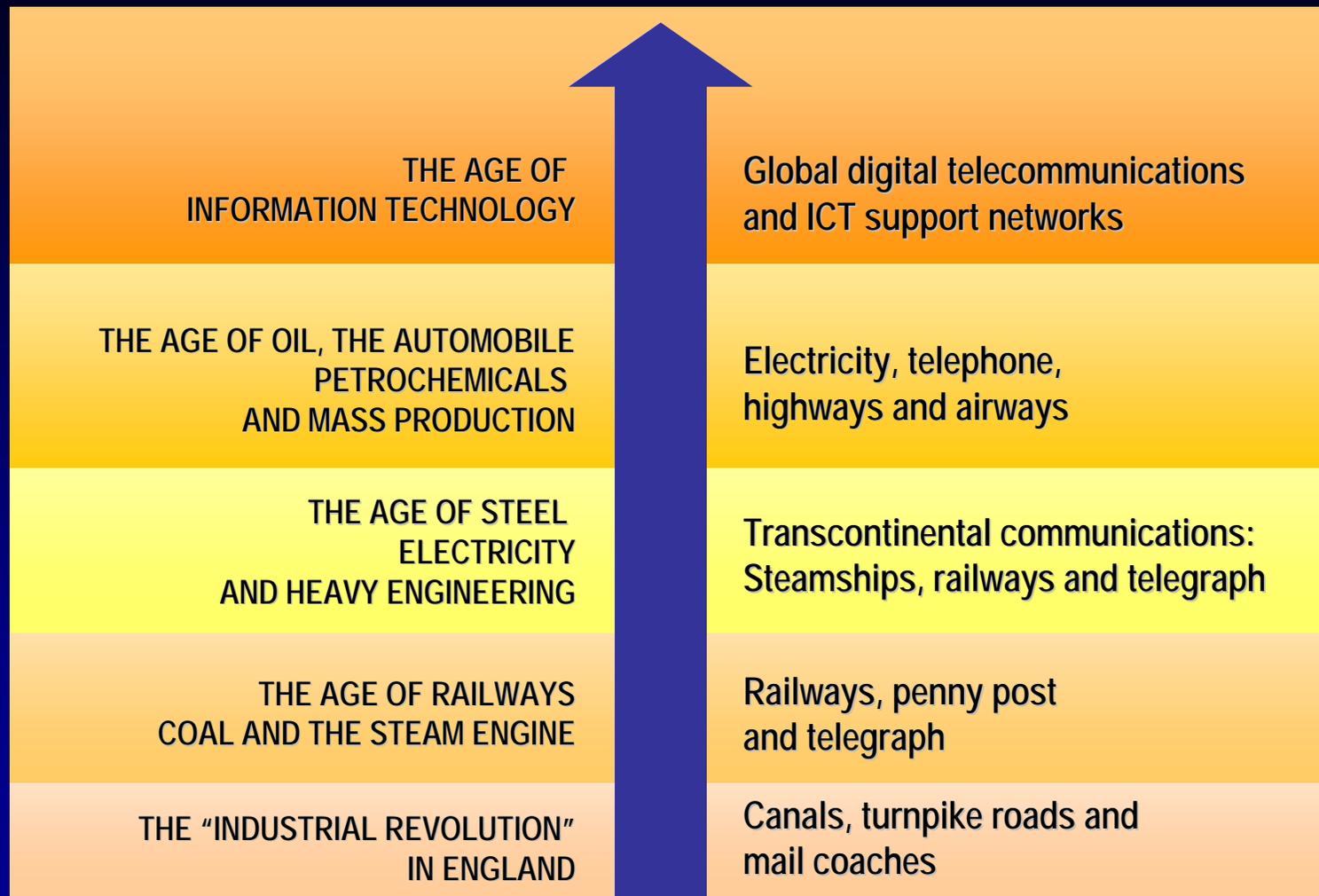
**WHICH POLICIES CAN  
FACILITATE THE SUCCESS  
of all economic sectors  
IN THE NEXT GOLDEN AGE?**

**Those providing the context  
for competitiveness  
in the present  
techno-economic paradigm**

**Today that means ICT!**

IN THE DEPLOYMENT PERIOD OF EACH REVOLUTION

**THE INFRASTRUCTURAL NETWORKS ARE THE PLATFORM FOR COMPETITIVENESS**



**GLOBALISATION**



- Coordination of complex global networks, value-chains and multiple alliances
- World market segmentation, niche targeting
- Hypermarkets
- Worldwide franchise and supplier networks
- Global off-shoring and re-specialisation

**FLEXIBLE/ADAPTABLE SYSTEMS**



- Rapid and constant response to markets
- Dynamic product mix
- Continuous innovation [CAD, CAE, compu-synthesis, compu-simulation, etc.]
- Adapting to user requirements [fine specialisation]

**KNOWLEDGE-BASED SOCIETY**



- Human capital, basic and changing skills
- Intangible value added
- Service and complex product innovation
- E-commerce, e-business, e-education, e-government...

**INSUFFICIENT ICT IS A MAJOR COMPETITIVE HANDICAP**

**A ROLE  
FOR  
GOVERNMENTS**



**Provide the BEST possible context  
for the economy to take FULL advantage  
of the potential of the ICT paradigm**



**PROMOTE BROAD CONSENSUS FOR  
BOLD AND ADEQUATE ICT POLICIES AND REGULATION**

**ALL SECTORS OF THE ECONOMY AND CONSUMERS**

**An ICT infrastructure to maximize use volume  
user density, use capability and competitiveness**

- **Maximum quality and coverage**
- **Globally competitive prices (the lower the better!)**
- **Maximum reliability and security**

**PUBLIC  
POLICY**



**Context for healthy competitive ICT companies  
with optimum sector architecture:**

- **Favouring sufficient profit for growth, expansion  
and maintenance**
- **With enough incentive for research, innovation  
and constant response to user needs**

**PROVIDERS OF ICT SERVICES AND INFRASTRUCTURE**

## **THE TIME TO ACT IS NOW!**

For the next two decades, at least:

**INFORMATION  
AND TELECOMMUNICATION  
INDUSTRIES AND SERVICES**  
are NOT just  
an important industry

**THEY ARE THE KEY  
TO THE COMPETITIVENESS**  
of any company  
of any country, of any region

**THE SHAPE OF THE ICT INFRASTRUCTURE  
IS THE SHAPE OF THE FUTURE**