

# Universal Design Workplace

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ユニバーサルデザインの枠組み
- 2 Guideline on UD Workplace  
ワークプレイスのUDガイドライン
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ワークプレイスの事例

# Background of UD workplace

Change of Laws/Regulations

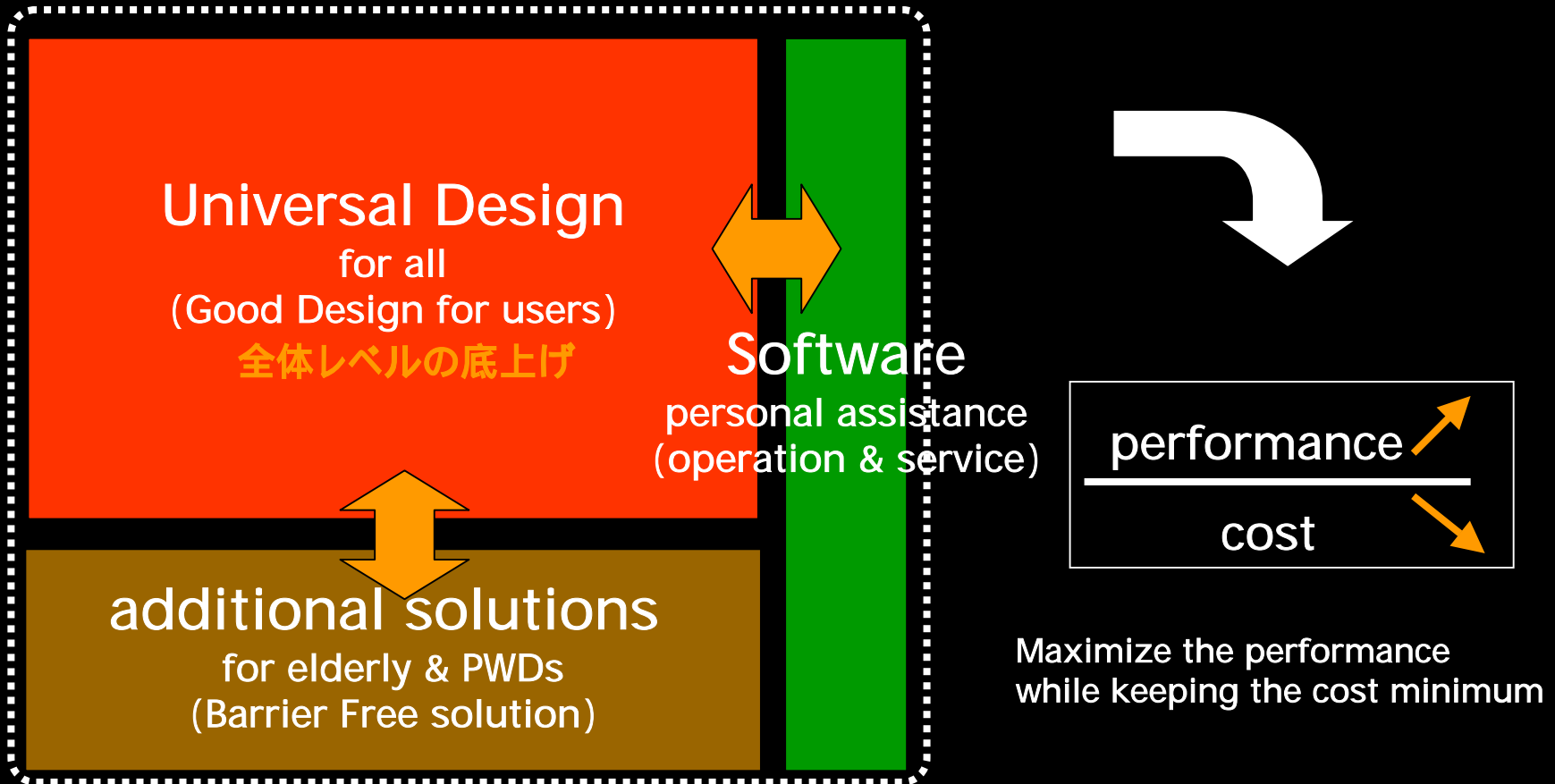
Concern for health & safety for workers

Corporate Social Responsibility & Social Responsibility Investment

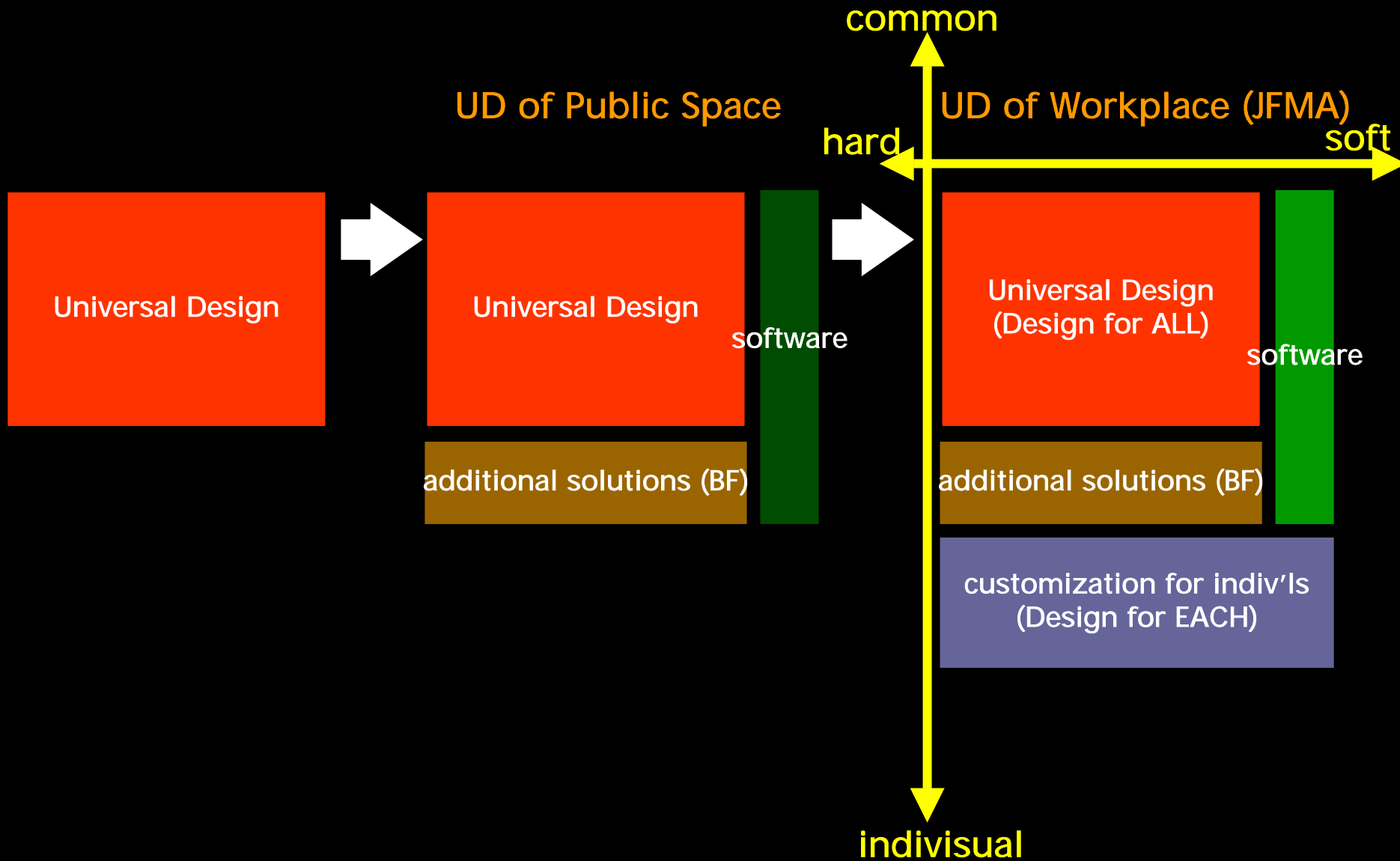
Change of the value of the standard for real estate

# Structure of UD Workplace

UD + additional solutions + software



# Scope of UD Workplace



# Characteristics of UD Workplace

Comparison between Public Place and Workplace

**Public Place**

**for all users**

By laws/ regulations

**Workplace**

**for each workers  
diversity of workers**

By corporate strategy

# UD guideline "Toward UD of Workplace" Sep.30 2004

**オフィスのユニバーサルデザインに向けて**

第1章 ワークプレイスのユニバーサルデザイン  
 第2章 ユニバーサルデザインの実践  
 Part 1 概論・計画  
 Part 2 プロジェクト管理  
 Part 3 運営維持  
 第3章 ユニバーサルデザインの現状【各種調査】  
 第4章 研究学会の活動と今後  
 第5章 資料

社団法人 日本ファシリティマネジメント推進協会  
 ユニバーサルデザイン研究部会【JFMA-UD】

## CSF1-2 公共交通機関から敷地までのアクセス

交通バリアフリー法により、駅などの旅客施設の整備と併せて、駅前広場や駅周辺の道路（駅から概ね5.00～1.000mの徒歩圏）のバリアフリー化も推進されている。公共交通機関から敷地までの経路のアクセシビリティについては、整備状況を現地調査等により、立地選定の判断基準の一つとしたい。

### ユーザーニーズ

- <通勤経路の安全性が確保されていること>（安全な歩道の確保、大きな交差点の有無等）
  - ・視覚障害者は、駐車中の自転車などにぶつかりやすい（歩道上の自転車等の障害物を撤去する）
  - ・白杖使用者は歩行中、杖先に注意が集中するため、上部のみに突出している標識等が頭、顔、肩などに衝突する危険性がある。
- <移動の容易性：移動距離と時間が短いこと>
  - ・最寄り駅から職場のある敷地までの距離が近く（概ね徒歩5分以内）、経路が歩きやすいこと。
  - ・距離は短いほど良いが、段差が多かったり、アップ・ダウンが多い場合は車椅子利用者等は移動不可となる。
- <通勤経路の快適性>
  - ・駅前や歩道の途中に休憩できるベンチがあったり、雨に濡れないアーケード街や緑が多いと快適に移動ができる。

### BEST: 望ましい公共交通機関の条件

- ・歩道は十分な幅（2メートル以上）が確保され、更に樹木やベンチなど快適に歩行できる工夫があること。
- ・歩道の舗装は、雨水がたまらないように、透水性舗装となっていること。
- ・駅やバス停の周辺には雨に濡れない庇や屋根が設置されている。（必要に応じて）
- ・信号機には、音響機能や歩行者用時間延長機能が整備されていること。
- ・大きな交差点には、立体横断施設が設けられ、道路幅が確保されていること。
- ・最寄り駅から職場のある敷地までの距離が概ね徒歩5分以内で、誰でも安全にアクセスが可能であること。（階段や急な坂が無く、大きな交差点が少なく、歩道が確保されていること）

### MUST: 必須の公共交通機関の条件（法的遵守）

- ・歩道（自転車歩行者道）と自動車道と分離した通行空間が確保されていること。
- ・歩道の幅は、車イス使用可能な十分な幅が確保されている。（概ね2メートル以上）
- ・歩道は視覚障害者が安全に通行できるように縁石により区画されていること。
- ・歩道が横断歩道に接続する歩道境界部の段差は、車イス等でも通行できる高さ（2cm程度）となっていること。
- ・主要な交差点等においては、病院等の主要施設、エレベーター等の移動支援施設等が標識や視覚障害者誘導専用ブロックで案内されていること。

### 解決事例



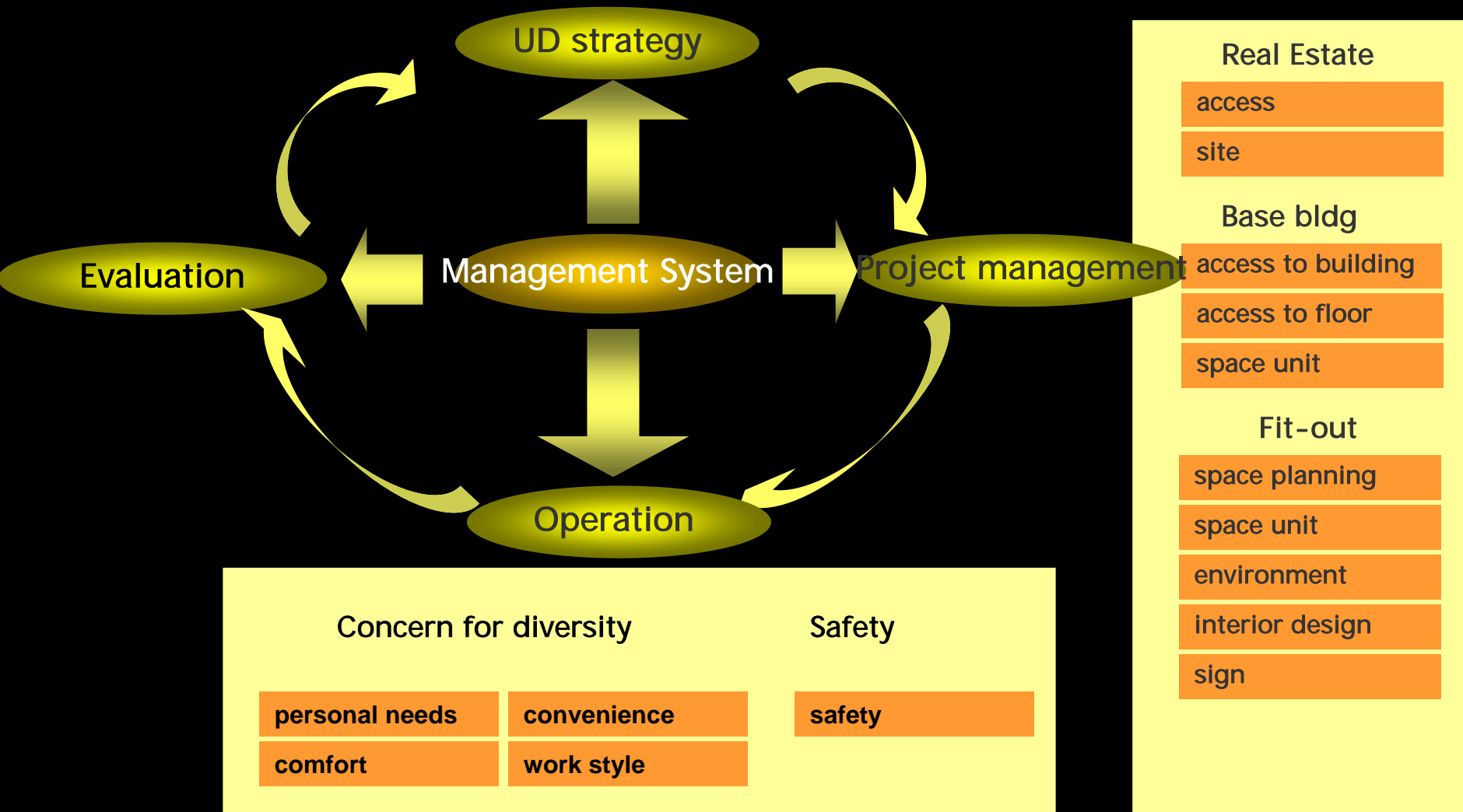
駅の入出口から連続した雨に濡れないバス停。サイン計画もわかりやすい。（阪急 伊丹駅）



雨に濡れないバス停とベンチ  
 バスを利用する人も買い物をする人も雨に濡れず、ベンチで気楽に休みできる工夫。（熊本市）

Sep.30 in store

# Critical Success Factors in FM-cycle





# 30 Critical Success Factors

## 1 Real Estate

### 1-1 Access

CSF1-1-1 Transportation

CSF1-1-2 Access to the site

### 1-2 Site

CSF1-2-1 Convenience

CSF1-2-2 Safety · Comfort

CSF1-2-3 Characteristics

## 2 Planning (Base building)

### 2-1 Access to building

CSF2-1-1 Entrance of the site

CSF2-1-2 Walkway

CSF2-1-3 Parking

CSF2-1-4 Walkway from the parking

CSF2-1-5 Passenger loading zone

### 2-2 Access to Floor

CSF2-2-1 Entrance to the building

CSF2-2-2 Entrance hall

CSF2-2-3 Reception desk

CSF2-2-4 Hallway

CSF2-2-5 Stairs

CSF2-2-6 Elevator · Escalator

### 2-3 Space Unit

CSF2-3-1 Toilet

CSF2-3-2 Utility

# 3 0 Critical Success Factors

## 3 Planning (Fit-out)

### 3-1 Space Planning

CSF3-1-1 Zoning

CSF3-1-2 layout

### 3-2 Space Unit

CSF3-2-1 Workstation

CSF3-2-2 Work-support space

CSF3-2-3 Computer/Filing space

CSF3-2-4 Supplementary space

### 3-3 Environment

CSF3-3-1 Heating

CSF3-3-2 Lighting

### 3-4 Interior design

CSF3-4-1 Color plan

CSF3-4-2 Toxic material control

CSF3-4-3 Furnishing

### 3-5 Sign

CSF3-5-1 Sign

# Priority

Introducing UD according to the priorities

## Base Building

Hard to change once built.

Make structures that accommodate the largest range of users.



## Fit-out

Easy to change.

Customize according to the users' needs.



## Operations

Easy to change.

Respond to users' needs on regular bases.

# Accomplishment level of each CSF

## User's Needs

- What is needed?

## Basic matter=must

- Basic matter
- Laws and regulations
- Safety concerns

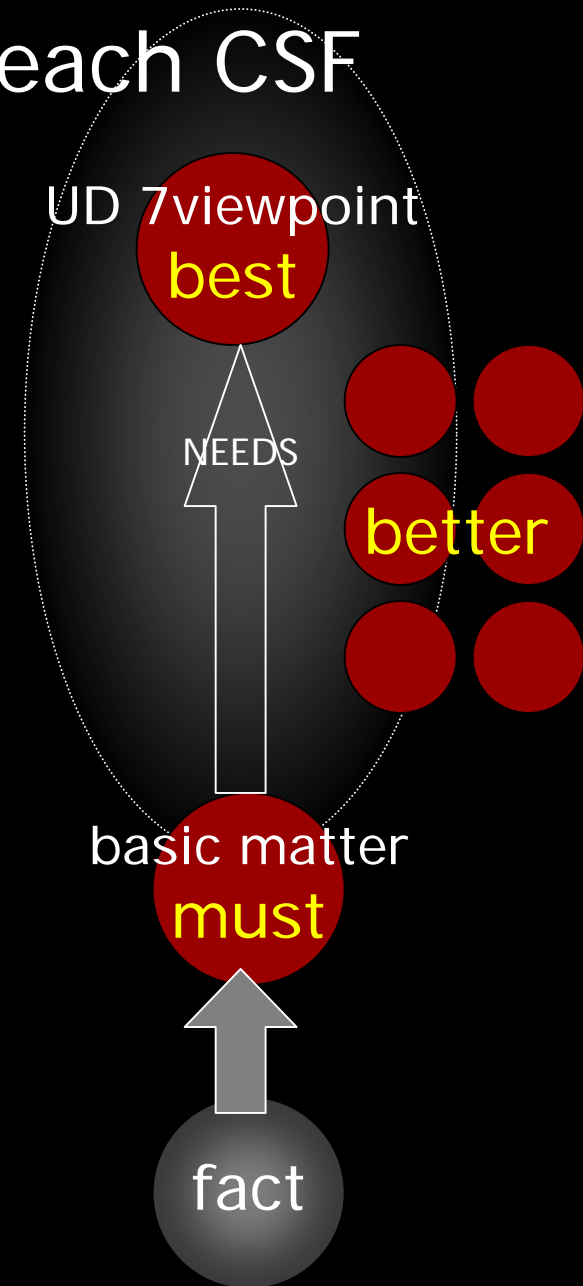
## Universal design=best

- principle of universal design

- 1: Equitable use
- 2: Flexibility in use
- 3: Simple and intuitive use
- 4: Perceptible information
- 5: Tolerance for error
- 6: Low physical effort
- 7: Size and space for approach

## Solutions example=better

- Practical solutions



# UD review on Project Management

## UD team (cold team)

Propose alternatives  
from UD's point of view

### UD review 1

Object, Users, UD standards

### UD review 2

Zoning, Route, Levels of surfaces  
Approach, Toilet, Sign plan

### UD review 3

Planning, Accessibility,  
Entrance width, signs design

### UD review 4

Details, Safety, Usability,  
Color plan, Lighting, Ideas on UD

### UD review 5

UD inspection, Real scale model,  
Detail inspection, Operation plan

## Design team (hot team)

Few designer/architect cares UD.

Schematic design

基本構想段階

Basic Design 1/500

基本計画段階(1/500)

Basic Design 1/200

基本計画段階(1/200)

Execution Design

実施設計

Construction

建設工事

Operation

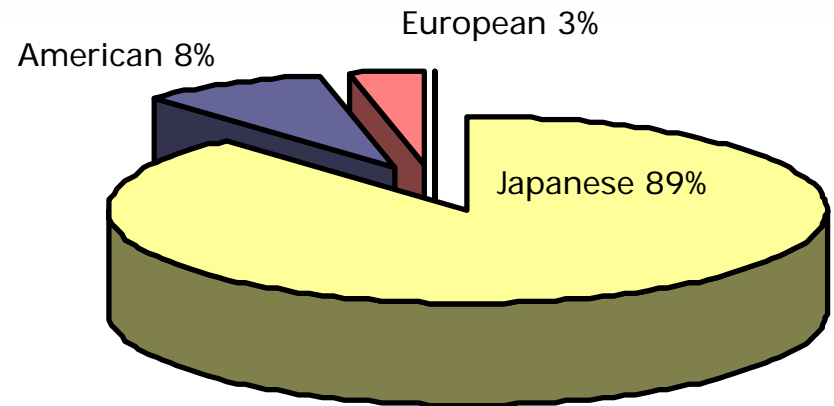
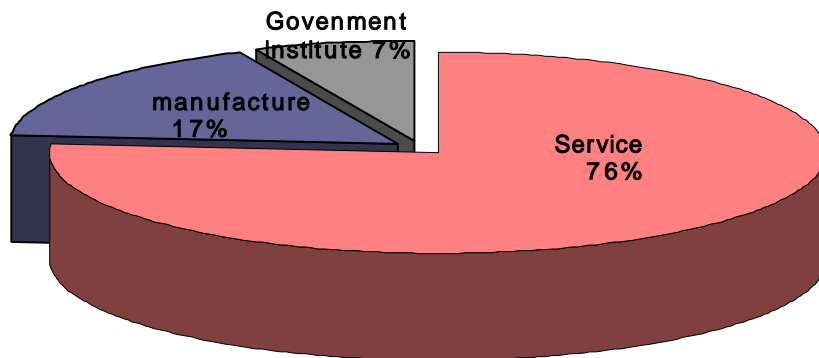
運用・維持

# Survey on Japanese Corporations (2002)

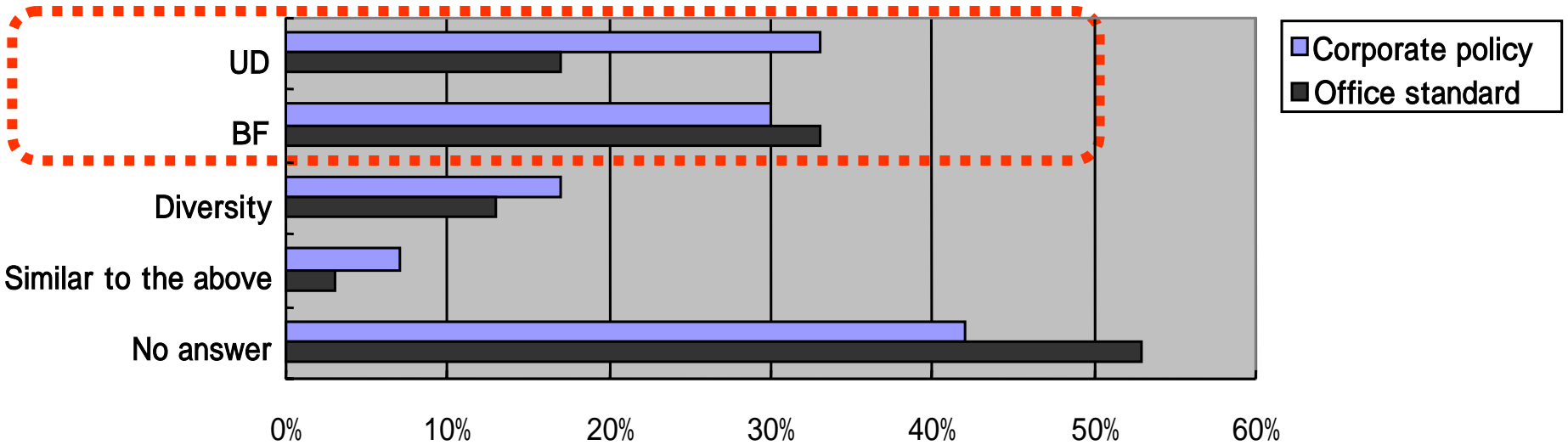
Jan-Feb.2003

Simple Q&A

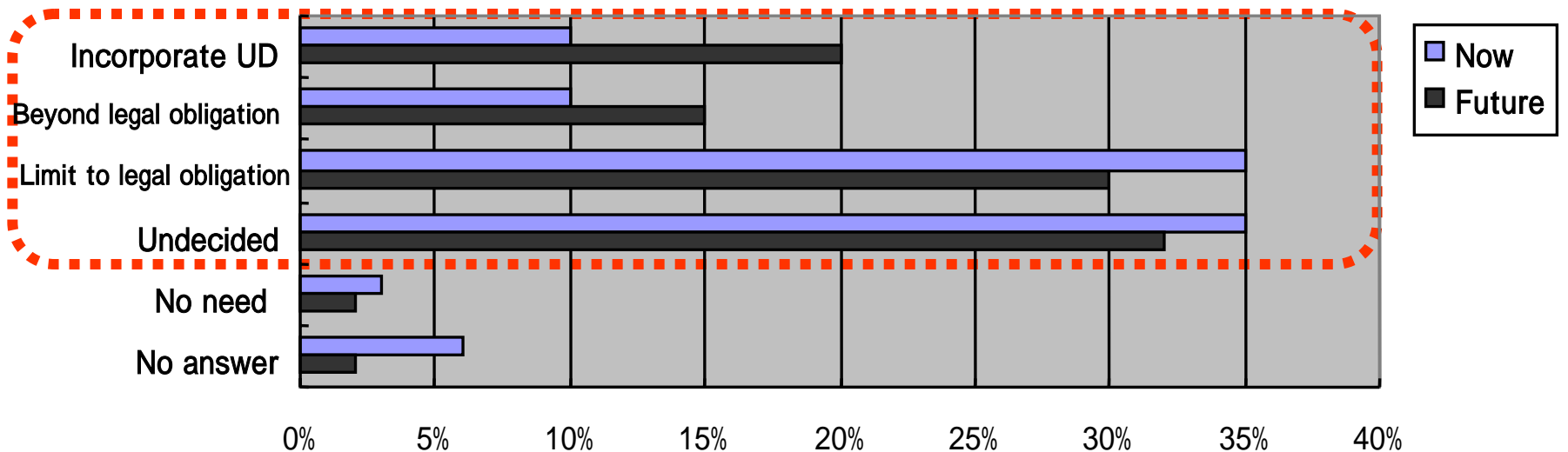
63 Inhouse-FMRS answered



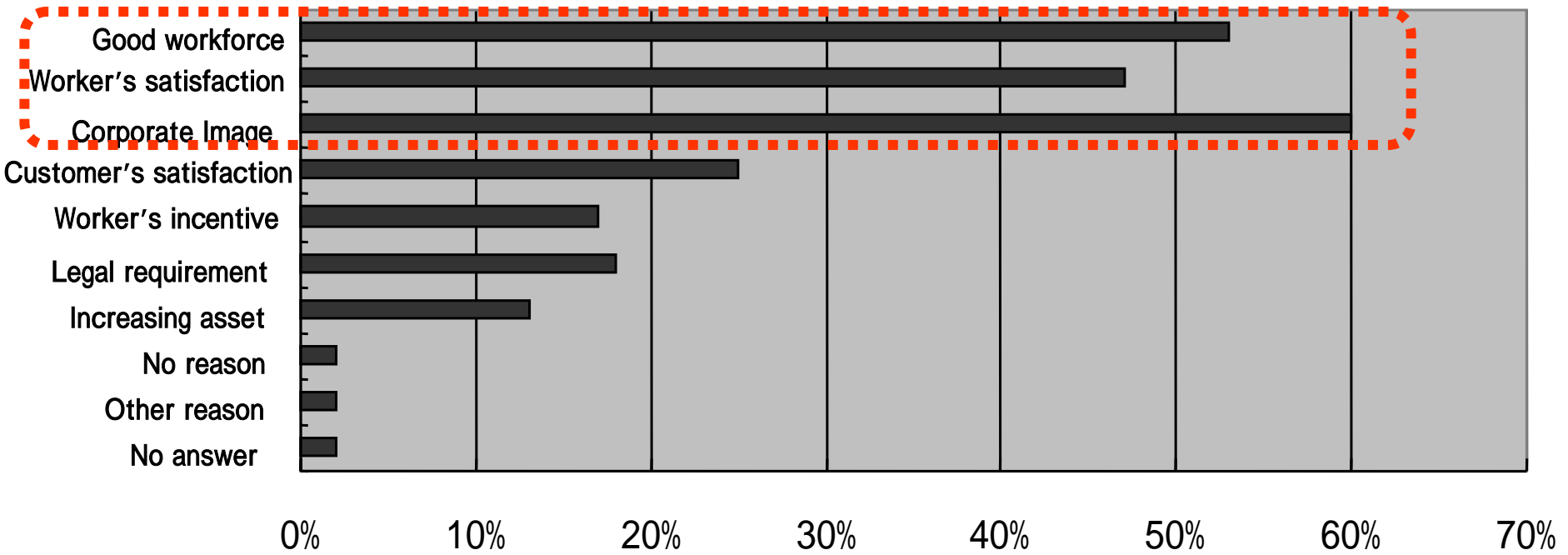
## Incorporate UD as Corporate Vision or Principle of Workplace



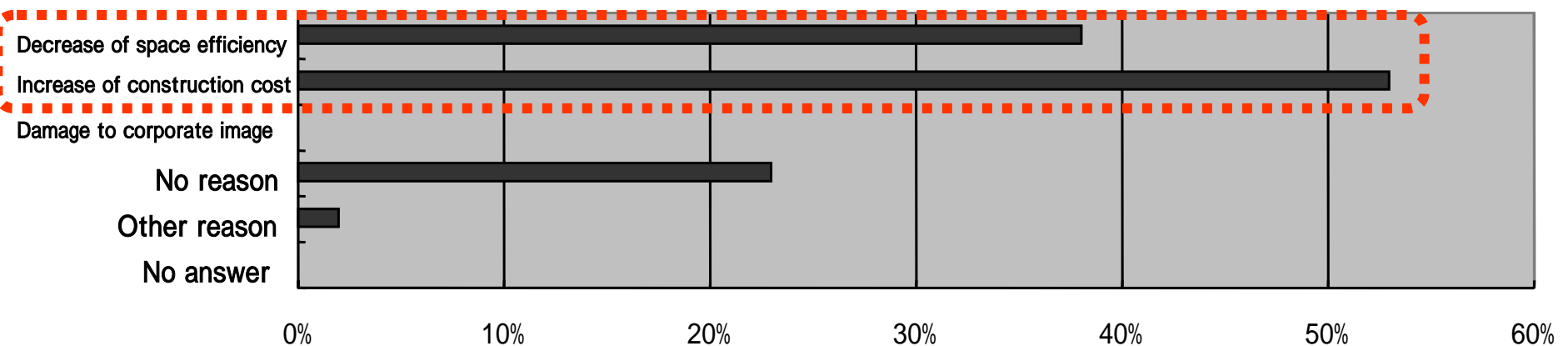
## Policy of UD Workplace now and in the future



# What is the Advantage of UD?

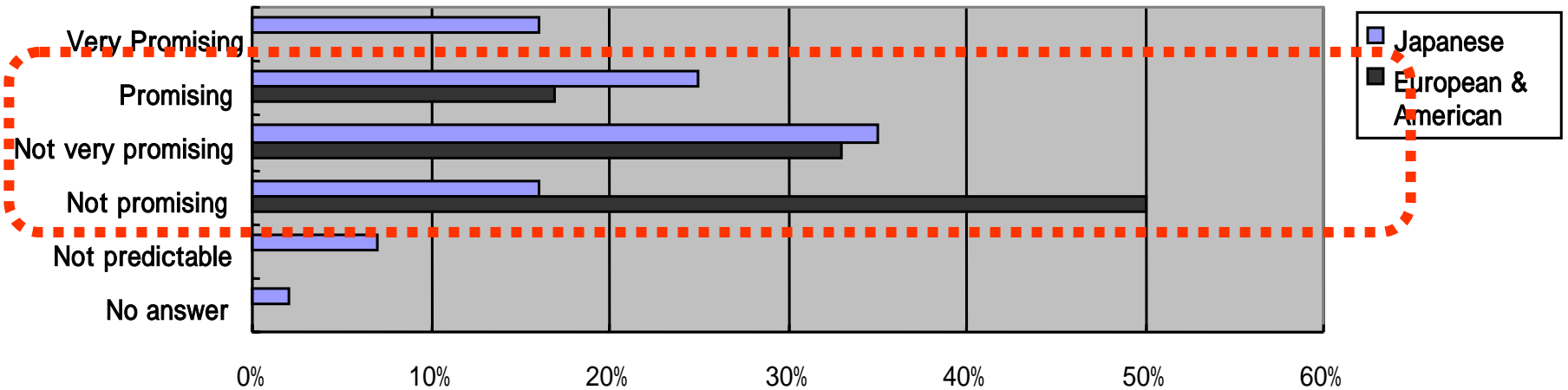


# What is the Disadvantage of UD?

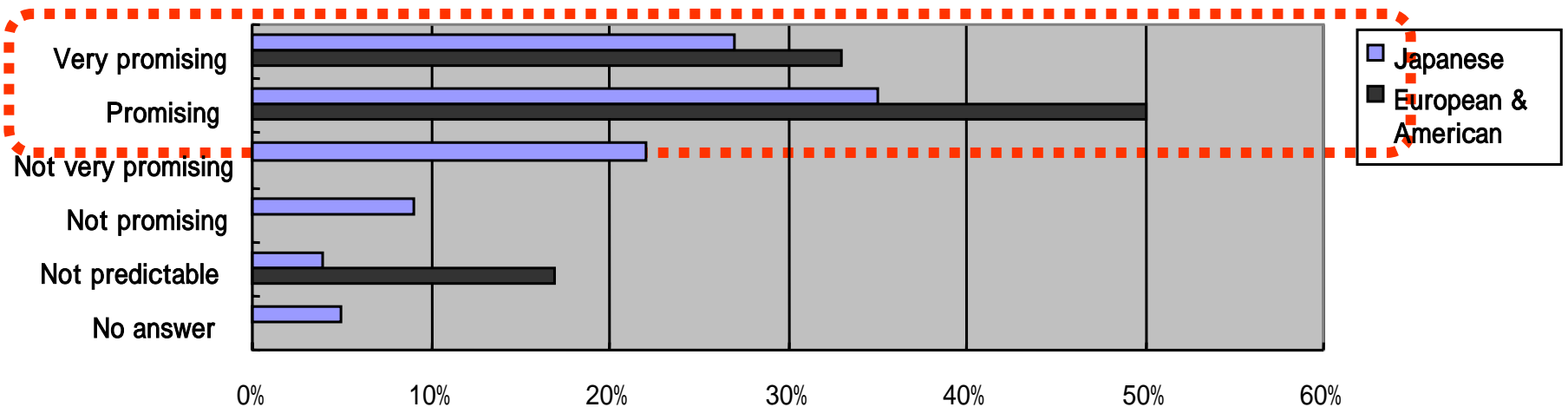




## Possibility of hiring elderly workers in the future



## Possibility of hiring disabled workers in the future



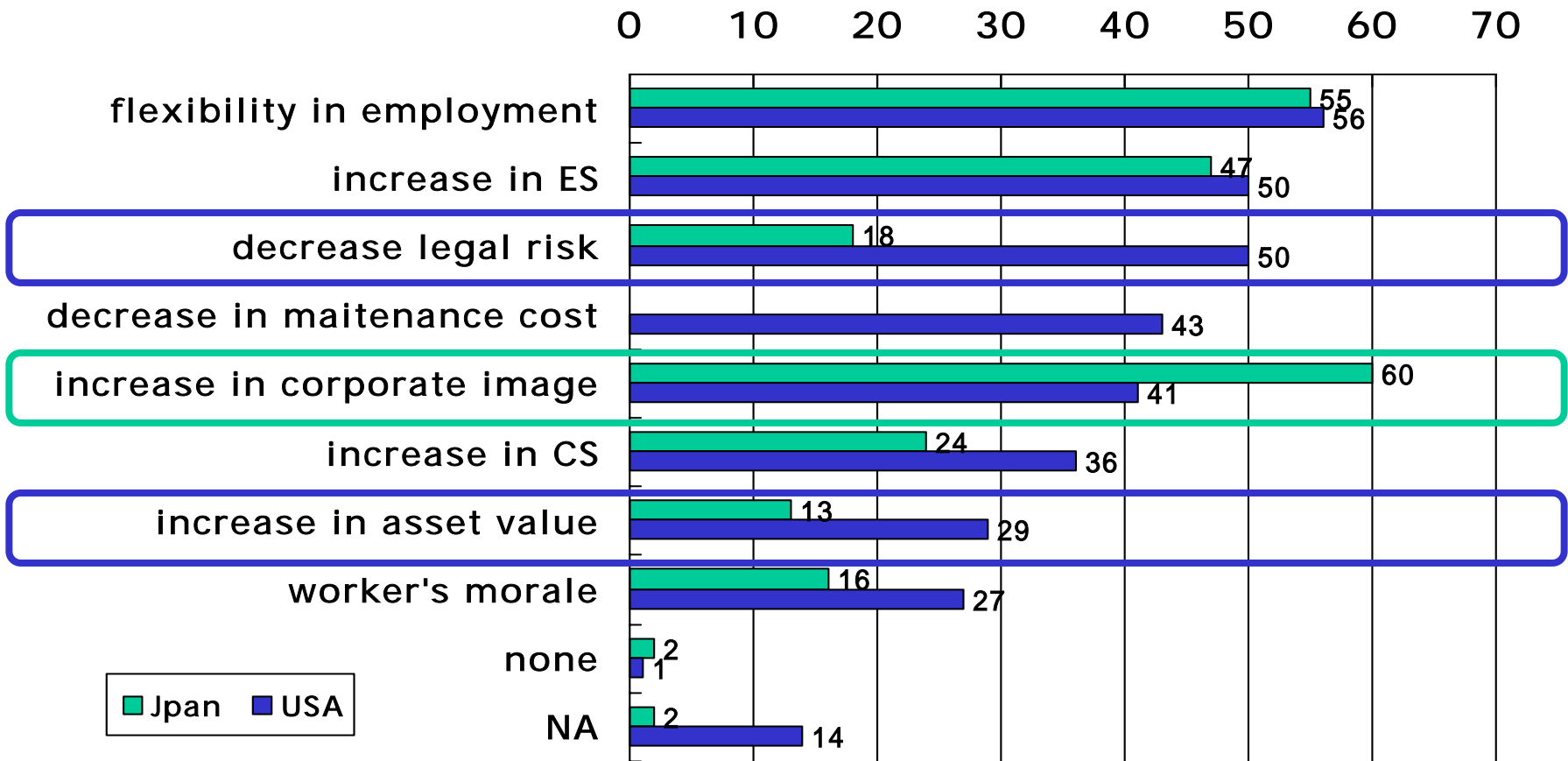
# Result of survey

- Most corporations incorporates **UD/Diversity** as corporate policy.
- Most corporations practices **Barrier Free rather than UD in their offices.**
- USA/Euro based corporations are positive toward disabled workers, but **not elderly workers.**
- FMers regard the advantage of UD as improving corporate image, human relation, worker's satisfaction & productivity.
- FMers regard the disadvantage of UD as increasing construction cost and space inefficiency
- FMers regard **cost** as the biggest barrier to incorporating UD.

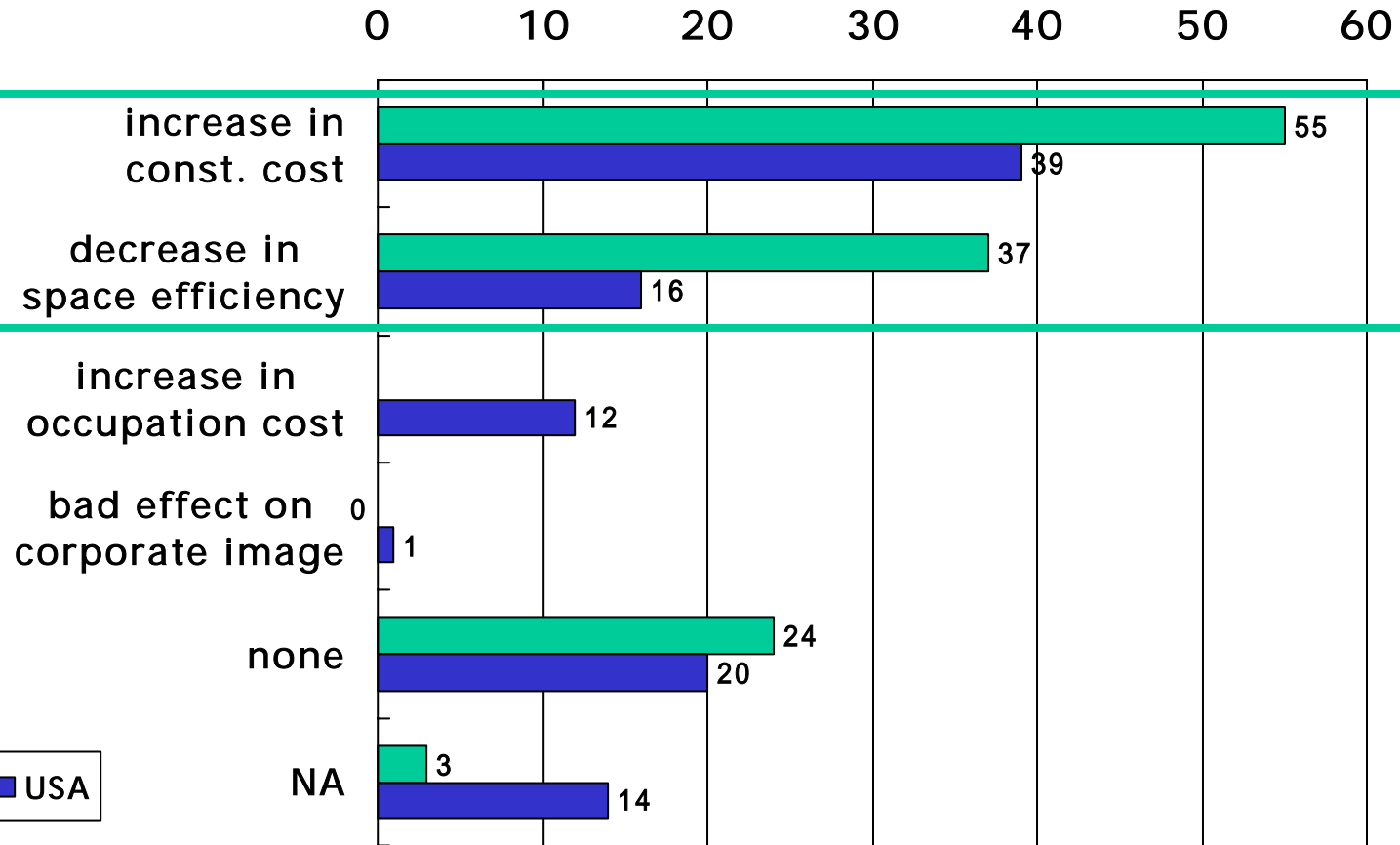
# Survey

Japan/USA 2004

What is **Advantage** of UD? (Japan/ USA)



# What is Disadvantage of UD? (Japan/ USA)



# Exemplars

# Fujitsu Solution Square



Open: 2003  
Area: 51,000m<sup>2</sup>

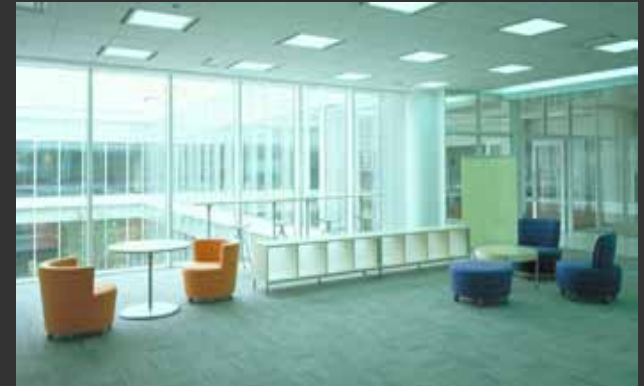
Office building: 7 stories  
Solution building: 3 stories

# Office Concept

Practicing new work style : Fusion of Workers & IT

- Realizing Non-territorial Work Style
- Stimulating Knowledge Collaboration
- Reinforcing Security

# Design Elements: Sensitive to Human



Comfortable meeting spaces

Incorporating natural materials, plants, colors



# Design Elements: Sensitive to Human



Comfortable meeting spaces

Incorporating natural materials, plants, colors

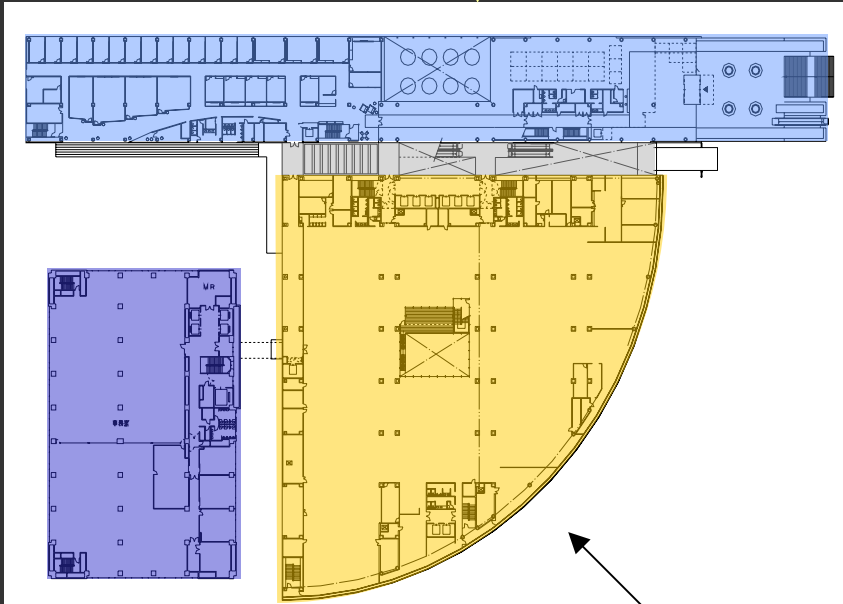
# Design Elements: Sensitive to Human



Comfortable meeting spaces

Incorporating natural materials, plants, colors

# Solution Building: One Stop Solution



# Office Building: Non-territorial



Damping Structure  
(Green-mass damper)



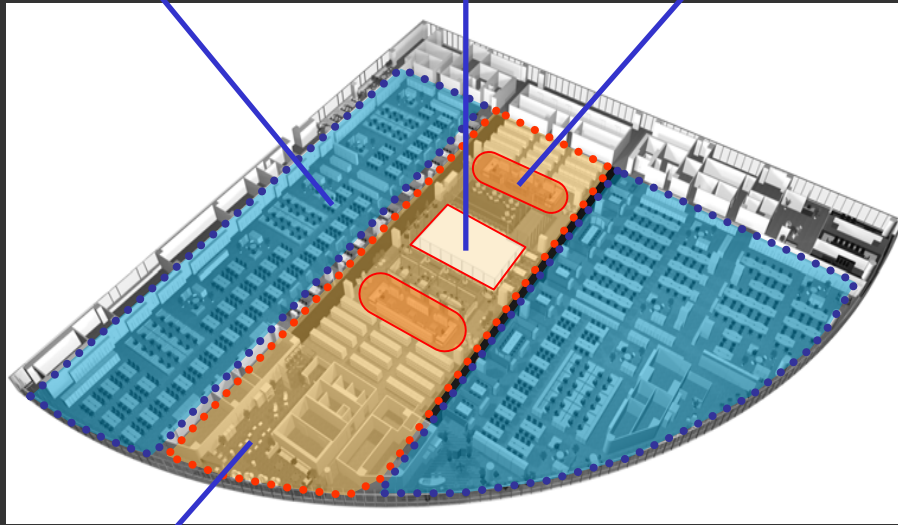
Open to the  
community

# Office Building's Concept

Office area

Patio

Concierge desk



Non-territorial office with  
4,000 skilled workers

Common area

Simple structured area with the shape of fan

Open spaced floor with wide view

Collaboration and Concentration

Support by Concierge desk

## Non-territorial office with 4,000 skilled workers



Everyone is equipped with internet protocol phone so everyone can be reached regardless of their place

# Floor Color of Office Building

-  6F Universe: Purple
-  5F Sun: Orange
-  4F Tree: Green
-  3F Flower: Yellow
-  2F Water: Blue
-  1F Earth: Red



Easy to work & move in the non-territorial environment  
Colors represent environments: from bottom color of earth  
to the top color of universe

# Floor Color of Office Building



Easy to work & move in the non-territorial environment  
Colors represent environments: from bottom color of earth  
to the top color of universe

# Collaboration Space



Partition can be removed when necessary.  
Up to 12 people can use one cubicle.



# Collaboration Space



Reservation is not necessary.  
Every workers showed satisfaction on questionnaire.

# Solution Building's Concept



Welcoming Customers  
Offering Solutions to Customers  
Wining & Dining

# Floor Color of Solution Building

Colors expressing hospitalities to customers



2F Concierge: Red, the Corporate Color

Wall: Brown, the stateliness

3F Concierge: Blight accented Color

Wall: Red, the Corporate Color

# Office with 4,000 Skilled Workers



**Private Lockers**

**Work Space**

**Concierge desk**

Desks are limited to 70 % of all workers. (2,800 desks)  
Applied zoning for each departments  
Provided 5,500 private lockers for workers stationed other places.

# Collaboration Space Without Making Reservation

Collaboration zone



Meeting & Communication zone



Creative zone

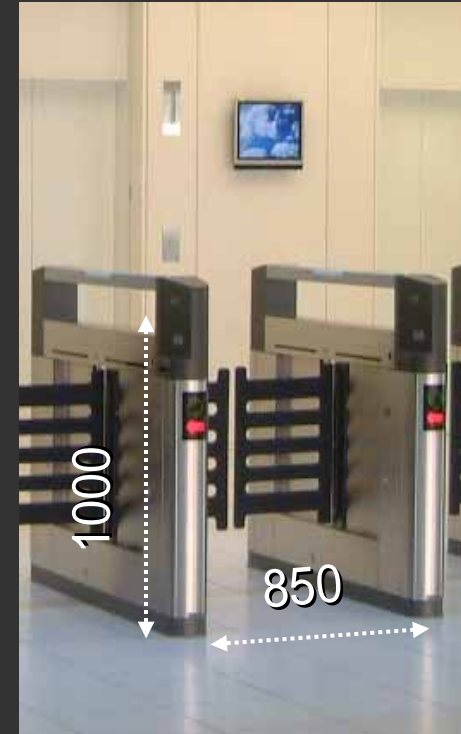


# Meeting Zone



Cafeteria Style Space with IT devices

# Consideration for Accessibility



Wide corridor, Elevator for wheel chair, audio assist, braille  
Escalator for lower floor  
Security gate with wider width, card reader with adequate height,  
vein certification

# Main Circulation with Wide Clearance



Office Building

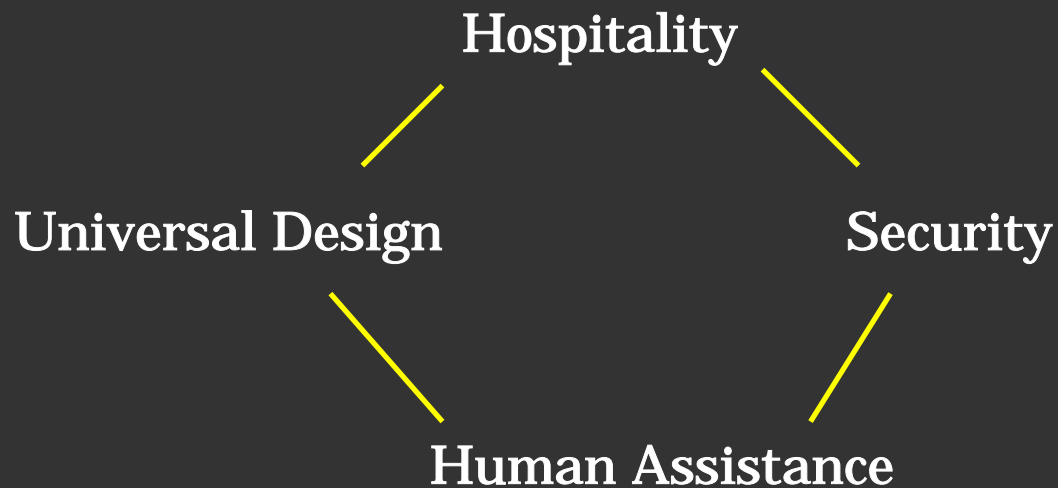


Solution Building



# Solution Building

Balancing Universal Design with Security System



# Challenge to the Sophisticated Technology

## Universal Design vs. Security & Disaster Prevention

How to cope with accessibility and security

Make facility easily accessible while keeping the level of security high

Utilize human assistance in order to realize both barrier free and security barrier

Pursuit Universal Service



# Pursuit Universal Service



**Concierge desk provides numerous services such as providing stationary, OA supplies, ticket for business trip, name cards, etc.**

# Other Offices



Japan Ketjen Co., Ltd.

# Japan Ketjen Co., Ltd.



Circulation is defined by the color of carpet  
Everyone uses same workstation

# Japan Ketjen Co., Ltd.



Desk top and the screen position are adjustable.

# Japan Aerospace Exploration Agency



Natural Light Duct provides skylight  
During sunny day, luminance reaches 800 to 1000 lux

**Thank you !**

**Dai Sogawa**

**Universal Design Committee,  
Japan facility Management Promotion Association**