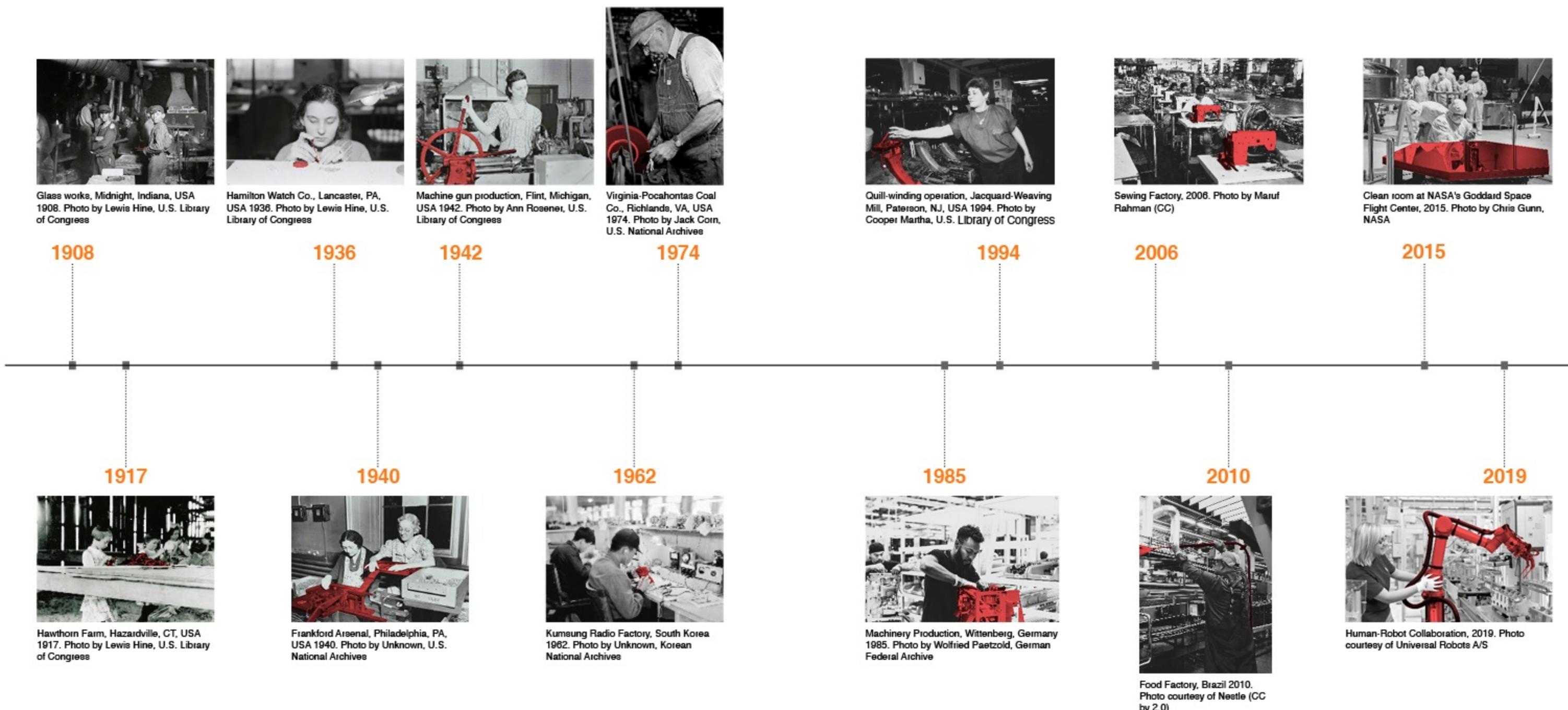


Evolution of Industries



Industrial Typologies



Street

A system of adjacent industrial/workshop units along a street

Complex

A unit consisting of several buildings that share a common space

Campus

A system of buildings in a defined space.

Box

A big box with internal organizational flexibility.

Tower

A multi storey autonomous structure.

Industrial Type : Patterns, Order & Geography.

One of the significant transformations witnessed in the 20th century, profoundly impacting both urban living and production dynamics, was the decrease in automobile commuting and truck shipping costs, coupled with the subsidization of highway infrastructure. This led to a widespread horizontal expansion of industrial zones, resulting in significant implications.

The evolving industrial landscape became heterogeneous, consisting of three distinct spatial categories: "**integrated**", "**adjacent**" and "**autonomous**".

Each category influences urban life and economic demands differently, with some cities incorporating multiple types within their administrative boundaries. The adoption of specific types is often influenced by historical, cultural, political, and economic considerations.

Type

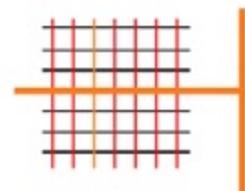
Autonomous



This type is characterized by large-scale zones occupied by uniform industrial buildings and surrounded by various physical boundaries.

Structure

Unified



Land use

Zoning



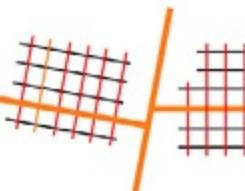
Adjacent



The organizational outline of the adjacent type is based on zoning and the separation between living and working.

Structure

Parallel



Land use

Partial zoning



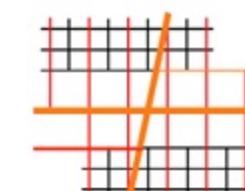
Integrated



The key features of this type is symbiosis between living and working.

Structure

Layered



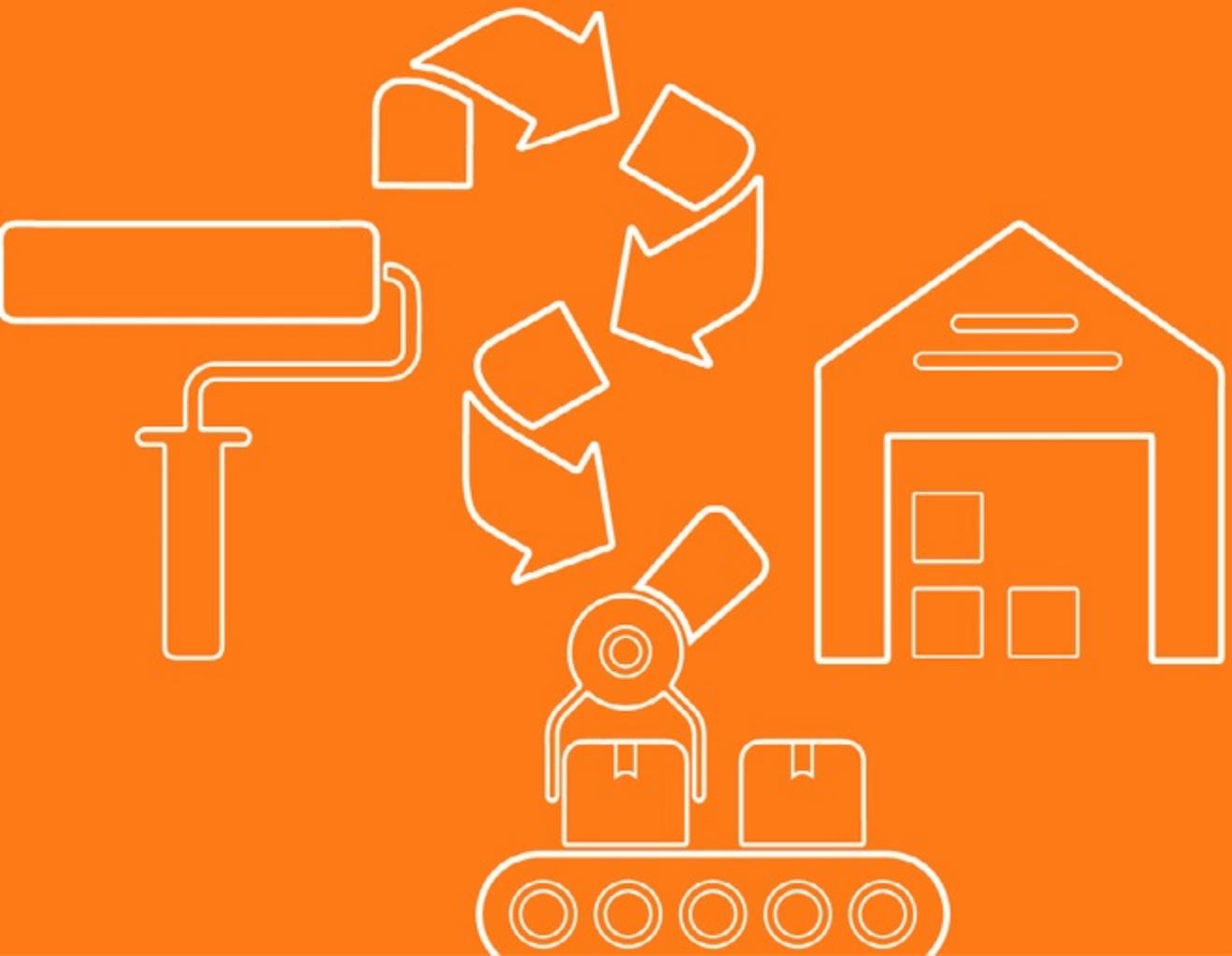
Land use

Mixed



Technology and people in a symbiotic environment

Industries exploring to what extent automation and augmentation of human labor will affect current employment numbers, but rather under what conditions the global labor market can be supported towards a **new equilibrium** in the division of labor between human workers, robots.



Implementable Fields

Synchronization allows diverse operations to function concurrently in the same space without interference, optimally sharing resources such as land, services, and infrastructure. This includes integrated living and office spaces, diverse mobility options, and more.

It's based on principles like efficient land use, integrating housing and work, reducing commutes, and maximizing use throughout the day. Overall, it's a new prototype emphasizing integration.



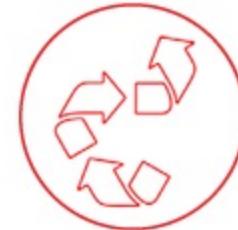
Creative

Recording studio, stage/ prop design, graphic design, glass blowing, fashion design



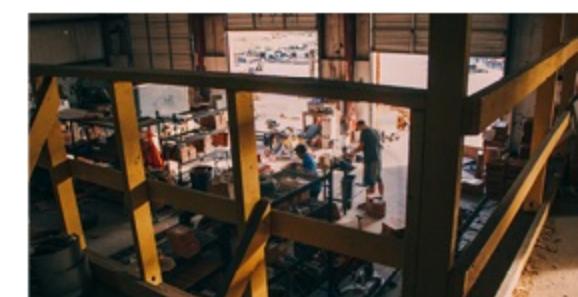
Production

3D printers, furniture restoration, shop/events display manufacture, medical prosthetics, VR Hardware and Software



Utility

Car repairs, car rental, upcycling, kitchen installations, building supplies



Distribution and Storage

Art storage, final mile logistics, parcel depot, food wholesalers, self-storage





The Roadblocks of Manufacturing: Charting a Path Forward

ECONOMY

Increasing global competition for investments and projects between cities and regions.

SOCIETY

Unemployment as a side effect of globalization and the transfer of production to developing countries

PLANNING

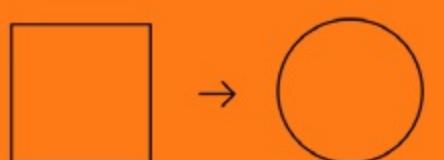
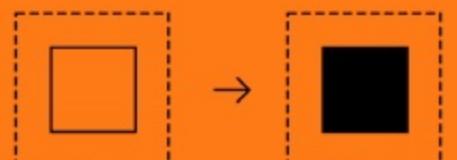
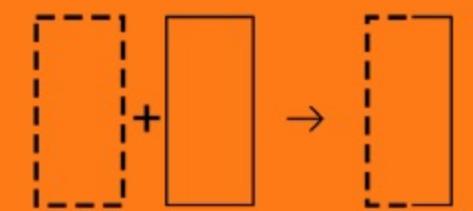
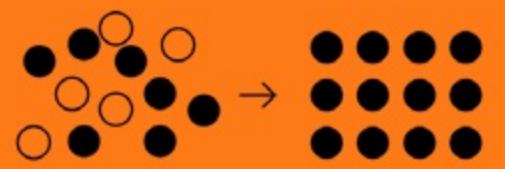
Demographic growth along with a trend toward rapid urbanization.

ENVIRONMENT

Changes in consumption and the cost of energy in the transportation of goods.

Scope of change through Design interventions

Strategies in Industrial Development



BALANCE

Focuses on regional development at under developed areas. Policies include local context requirements, tax relief, financial incentives.

COLLABORATION

Focuses on regional innovations and stimulate growth. Policies include R&D investment, university-led R&D, entrepreneurship

SPECIALIZATION

Focuses on cluster development and make a place synonymous with an industry. Policies include Formation of trade associations; workforce development, marketing and branding, industrial ecology, eco-industrial parks

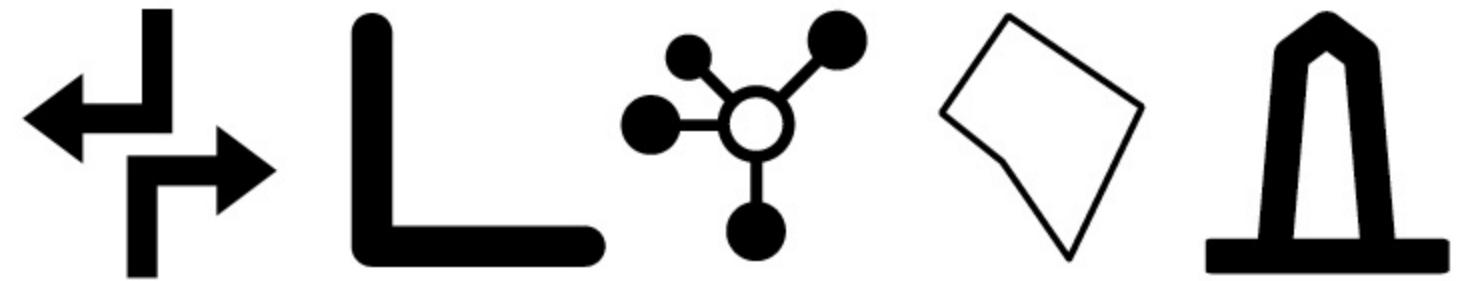
CONVERSION

Focuses on Industrial conversion by redeveloping disused industrial facilities and land. Policies include Tax relief, financial incentives.



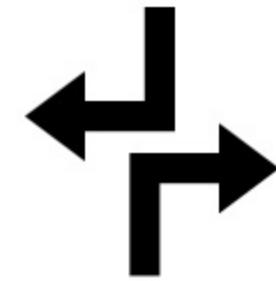
KEVIN LYNCH COGNITIVE APPROACH

**pathways
edges
nodes
districts
landmarks**

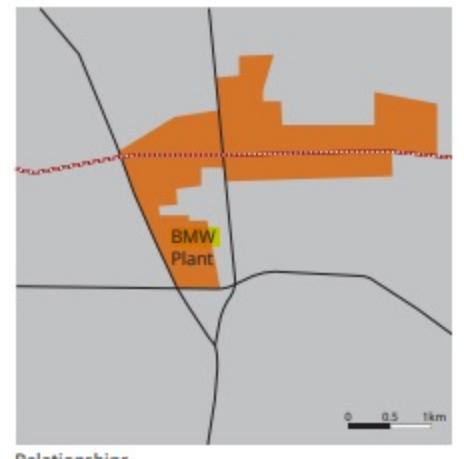
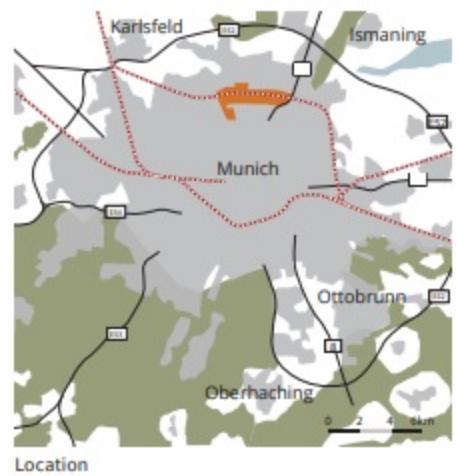


Campus pathways foster collaboration and safety, enhancing the sense of belonging among the workforce.

[Source: National Institute of Environmental Health Sciences]



BMW Werk München,
München, Germany



Clear edges on campus not only enhance focus but also serve as points of interaction, facilitating connections within the workforce.

[Source: Journal of Environmental Psychology]



L

Villapérez Wastewater Treatment Plant,
Oviedo, Spain



Active nodes within the campus promote innovation and connectivity among the workforce, fostering a collaborative work culture.

[Source: American Journal of Public Health]

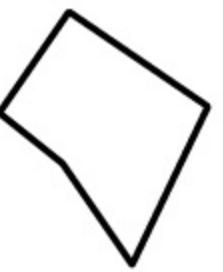


Dongshanshaoye Park,
Guangzhou, China

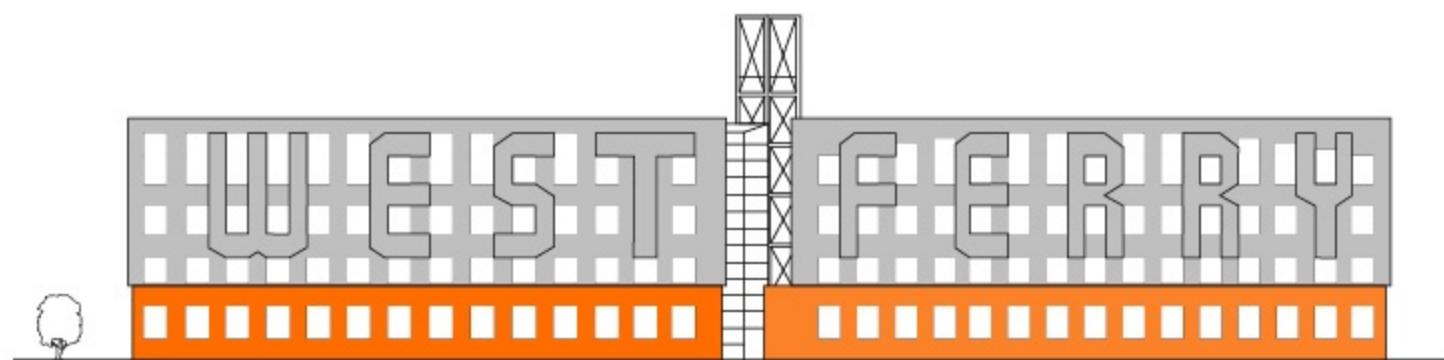
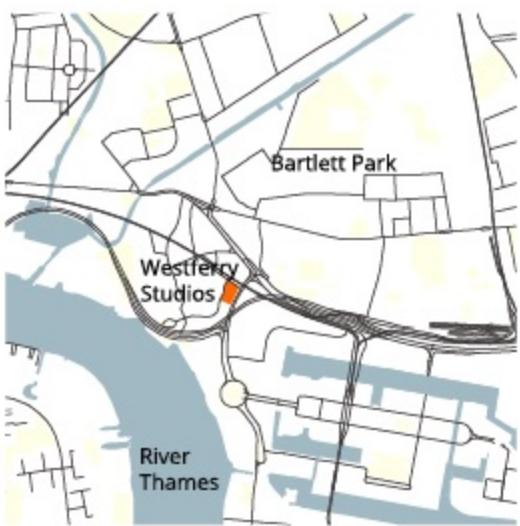


Cohesive districts with unique identities enhance community pride, social ties, and collective action.

[Source: Journal of Urban Design]

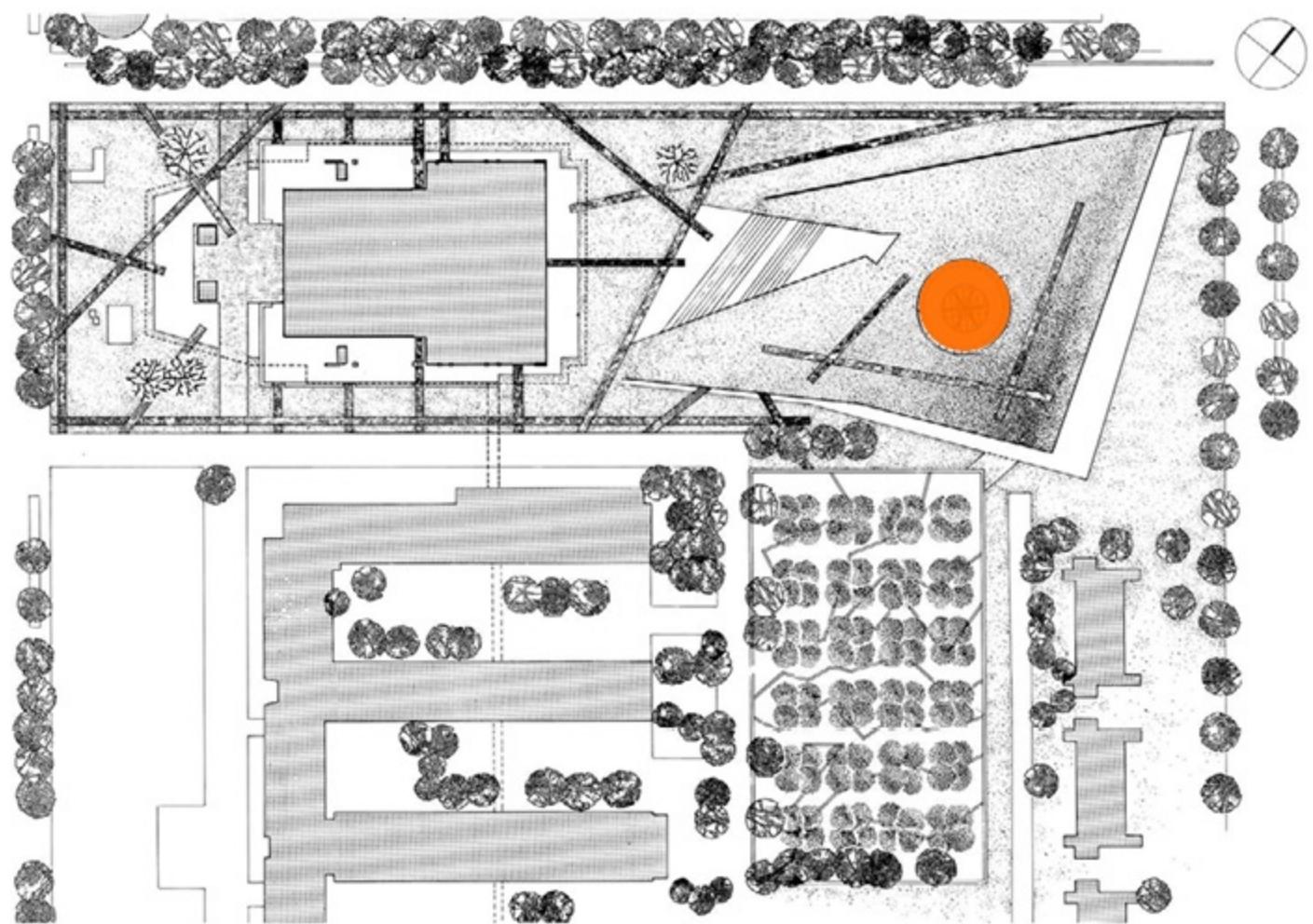


Westferry Studios,
London, UK



Distinctive landmarks on campus contribute to a strong sense of identity and satisfaction among the workforce, reinforcing their connection to the workplace.

[Source: Journal of Planning Education and Research]



TU Delft Library,
Delft, Netherlands

