

# Black Hills Underground Frontier Tech Hub

## Key Technology Focus Area (KTFA)

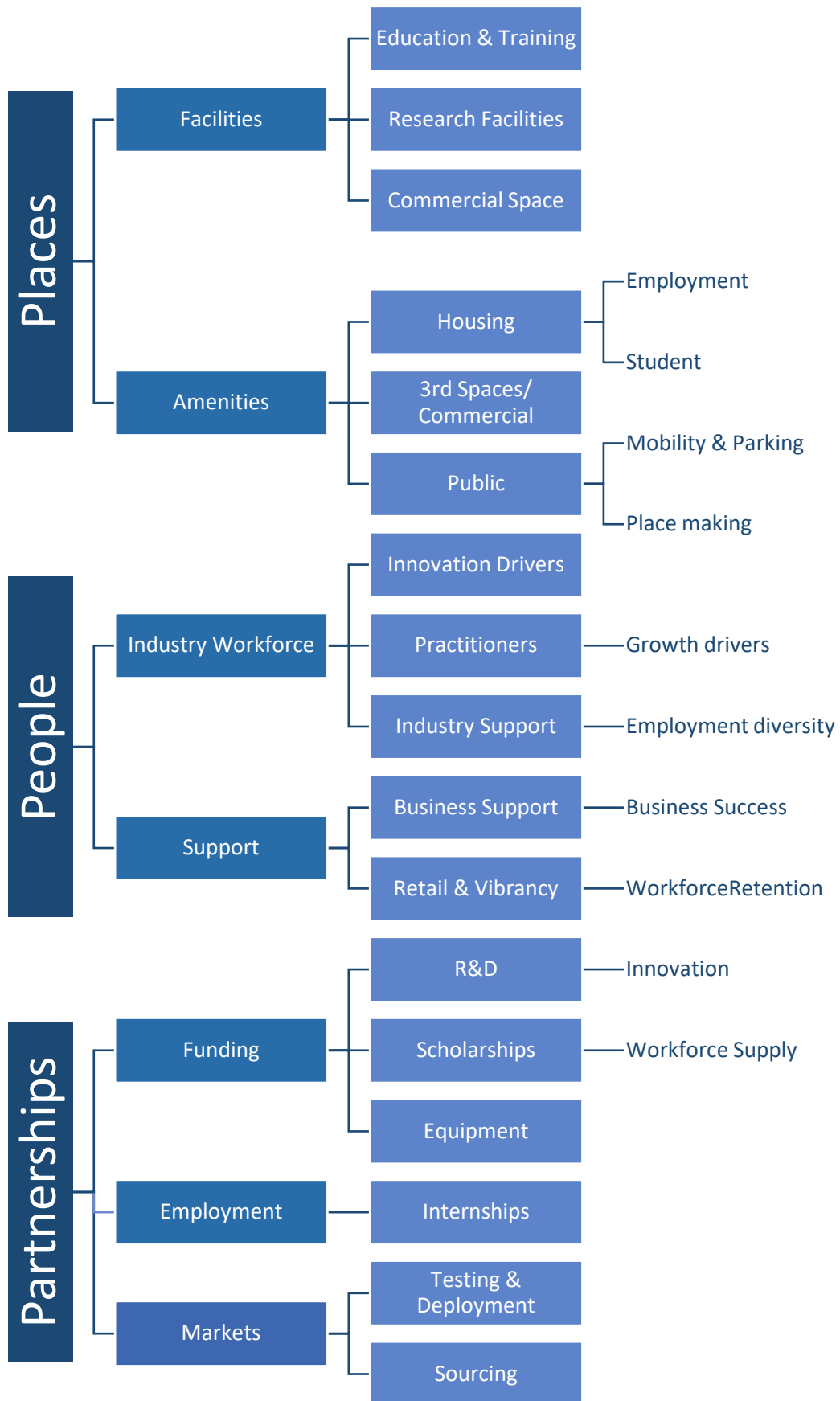
- Autonomous Mining Equipment
- Advancing Underground Decarbonization Solutions
- Mining Operational Safety and Automated Systems

## Market and Workforce Assessment

1. What is the global potential of the KTFA industries?
2. Based on current trends and constraints, what is the regions expected share of the global market?
3. Based on the region's size, workforce pipeline, and assets, which jobs/sectors within the KTFA present the greatest opportunity for the region?
4. Who are the people that are going to fill these future jobs?
5. What are the gaps in the workforce pipeline that might prevent the region from capturing the maximum possible market share?

## Innovation District Plan

1. Assessment of existing work and current conditions.
2. What facilities do we need to capture the maximum possible market share?
3. What amenities do we need to retain the people that will fill the identified priority jobs?
4. What public improvements do we need to make to accommodate the above facilities and amenities?
5. How do we organize, manage, and make decisions for the district?



# Market and Workforce Assessment

## Market Assessment

The Market Assessment aims to assess the global and local market trends influencing the future workforce within the Key Technology Focus Area (KTFA). This includes assessing industry growth, market potential, and job sectors, forming the basis for evaluating economic impact and crucial investments for the innovation district plan.

- Identify & define priority industry sectors within KTFA.
- Inventory research capacity, facilities, and education programs relevant to KTFA.
- Evaluate global and local market potential.
- Identify priority job sectors and necessary skills.

## Workforce Supply Analysis

This analysis should utilize demographic trends and existing workforce pipelines to provide insights into the local market share. It aims to determine the number of individuals, graduates, and employees the region can contribute to the industry, considering competitive advantages and potential opportunity groups.

- Identify and inventory demographic trends, research capacities, and workforce pipelines relevant to the KTFA.
- Develop an asset map detailing partnerships, programs, and research capacities.
- Identify local workforce competitive advantages.
- Identification of populations and jobs at risk of automation.
- Identify transferable skills conducive to high-growth industries.

## Industry Demand Analysis

The Industry Workforce Demand Analysis aims to proactively anticipate future industry demands within the KTFA, ensuring that workforce programs remain competitive.

- Projected total and local industry employment demand within KTFA.
- Specific skills and volume required for industry competitiveness and job retention.
- Analysis of shifting market trends for local talent pipeline improvement.

## Gap Analysis

The gap analysis should align the findings of the market assessment, supply analysis, and demand analysis. The analysis should identify deficiencies in the current workforce pipeline that may hinder the region's capacity to capture maximum local market share.

- Identification of education and skills gaps.
- Recommendations for reskilling displaced workers.
- Strategies for improving industry and workforce coordination.

# Innovation District Plan

## Synthesis and Update of Existing Plans

Reviewing existing plans related to the Innovation District, this involves synthesizing principles, goals, and strategies. Updates should consider recent accomplishments and remaining goals with a focus on collaboration and aligned investments.

- Public engagement & community visits.
- Presentation of review and findings to stakeholders.
- Identification of common priorities and short-term collaboration opportunities.

## Site Inventory

Identify opportunities for redevelopment by creating an inventory of vacant properties. Include evaluation criteria and a feasibility assessment for key sites.

- Inventory of vacant & underutilized properties.
- Evaluation criteria for identified properties.
- Feasibility assessment for key sites.

## Development Recommendations

Identify priority uses for key sites, coordinating with expected facilities needs, industry specializations, and local workforce. Recommendations should integrate the above plan review and site inventory with the findings of the Market & Workforce Assessment. Priority employment sector and workforce development facilities should inform the expected land use needs and development recommendations.

- Project district land use needs including residential, employment, and amenity needs.
- Recommendations for priority uses based on size, feasibility, location, and value.
- Assessment of potential tax revenues from redevelopment.
- Recommendations for the organization of a Redevelopment Authority or similar entity to aid with the acquisition and consolidation of identified sites.

## Public Amenities & Improvements Plan

Investments in public amenities are necessary to accommodate the desired changes in use and development intensity. Propose priority improvements and amenities, considering smart infrastructure technologies. Include recommendations for funding, public improvements, and a framework for prioritizing smart infrastructure.

- Identification of key public and private amenities.
- Recommendations for funding public amenities.
- Case studies of smart infrastructure technologies.

## Circulation Plan

Investigate traffic flow, parking use, and recommend bicycle and pedestrian infrastructure to accommodate increased land use intensity.

- Review of current traffic flow and parking use.
- Identification and recommendations for key bicycle and pedestrian corridors.
- Recommendations for traffic calming and improved safety.

#### Architectural, Landscape, & Streetscape Design Recommendations

Develop guidelines to create a distinct district character while integrating with the existing downtown core. Include recommendations for streetscape and landscape design, public space elements, and community engagement on public art installations.

- Visual preference survey and key architectural elements.
- Recommendations for streetscape and landscape design.
- Public space design elements for a distinct district character.
- Recommendations for community engagement on public art installations.

#### Governance

The final report should include recommendations of governance, responsibility, and decision-making structures. Case studies should be provided to help provide context, benefits, and shortcomings of different governance structures for the establishment, operations, and management of the innovation district.