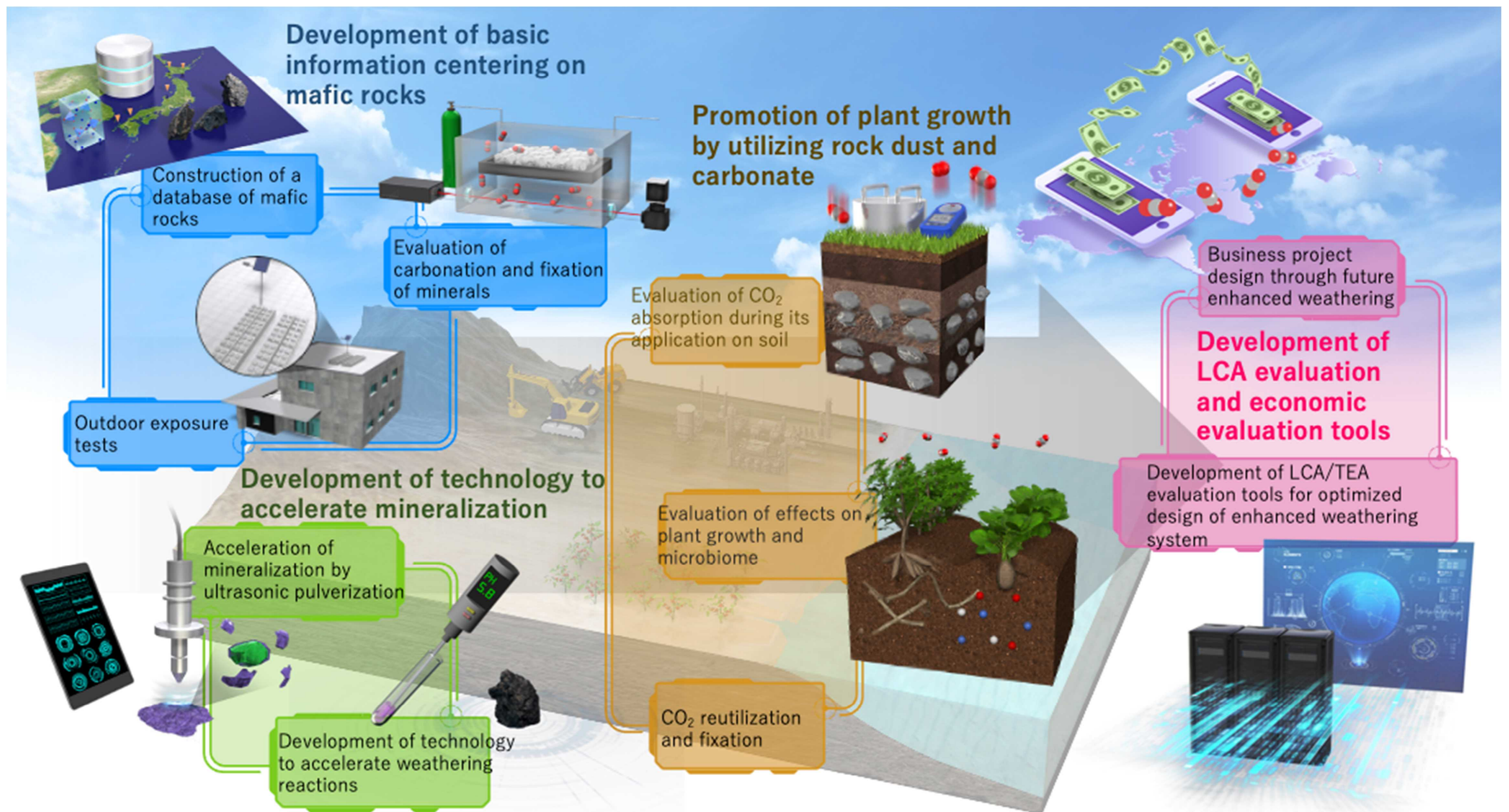


We will develop the CO₂ accounting methods of enhanced mineralization through a mafic rocks database and CO₂ fixation measurement technology. We will also build an LCA/TEA assessment tool for complete system design by realizing faster carbonation technology and optimizing utilization of rock dust and carbonate to enhance plant growth.



CO₂ Accounting

- Development of the mafic rocks database in Japan, including **chemical and mineral compositions**, **mining site information**, etc.
- Measurement of CO₂ absorption under various control conditions, such as laboratory, **long-term outdoor exposure conditions**, and **soil conditions**.

Cost Reduction

- Reduce the CO₂ mineralization cost to half of the current cost by using an **ultrasonic pulverization method**.
- Investigation of the effect of humidity, temperature, etc., for demonstration of engineering reaction acceleration.
- Development of **LCA/TEA platform** for evaluating annual CO₂ reduction considering temporal aspect.
- Evaluation and optimization of total system to reduce the CO₂ reduction cost.

CO₂ Application

- Measurement of the growth rate and photosynthetic activity of plants and soil environment such as **pH in soil including mafic, basaltic rocks or carbonate minerals**.
- Evaluation for the effect on CO₂ fixation and microbial activity in soil including finely-crushed rocks in the field.