

## Technology Overview

- In chemical looping combustion solid particles (typically metal oxides) are oxidized in one reactor and transported to another reactor for combustion with fuel
- Measurement of the mass flow rate of oxygen carrier particles is important for control of the combustion process
- High temperature and pressure in the reactor makes installation of existing sensors difficult
- We are developing a microwave Doppler system for measurement of the mass flow rate at high temperature and pressure
- Extraction of additional information (particle temperature, particle size ) is possible and is being explored

## Industry Significance

- Existing sensor systems are difficult to integrate into chemical looping combustion systems
- Existing sensor systems are unproven in this application
- Accurate measurements of mass flow rate are essential for control of the combustion process
- Other applications may require measurement of the flow rate of solid particles in harsh-environment conditions

## Benefits to Partner

- Potential for customization of sensor launcher for specific applications, especially with harsh environment conditions

## Opportunity

- Seeking company to purchase or license the innovation

## Development Status

- Microwave launcher design suitable for harsh environment applications has been designed and simulated
- Room temperature operation of the electronics package has been achieved

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