



Tatsu

Red B

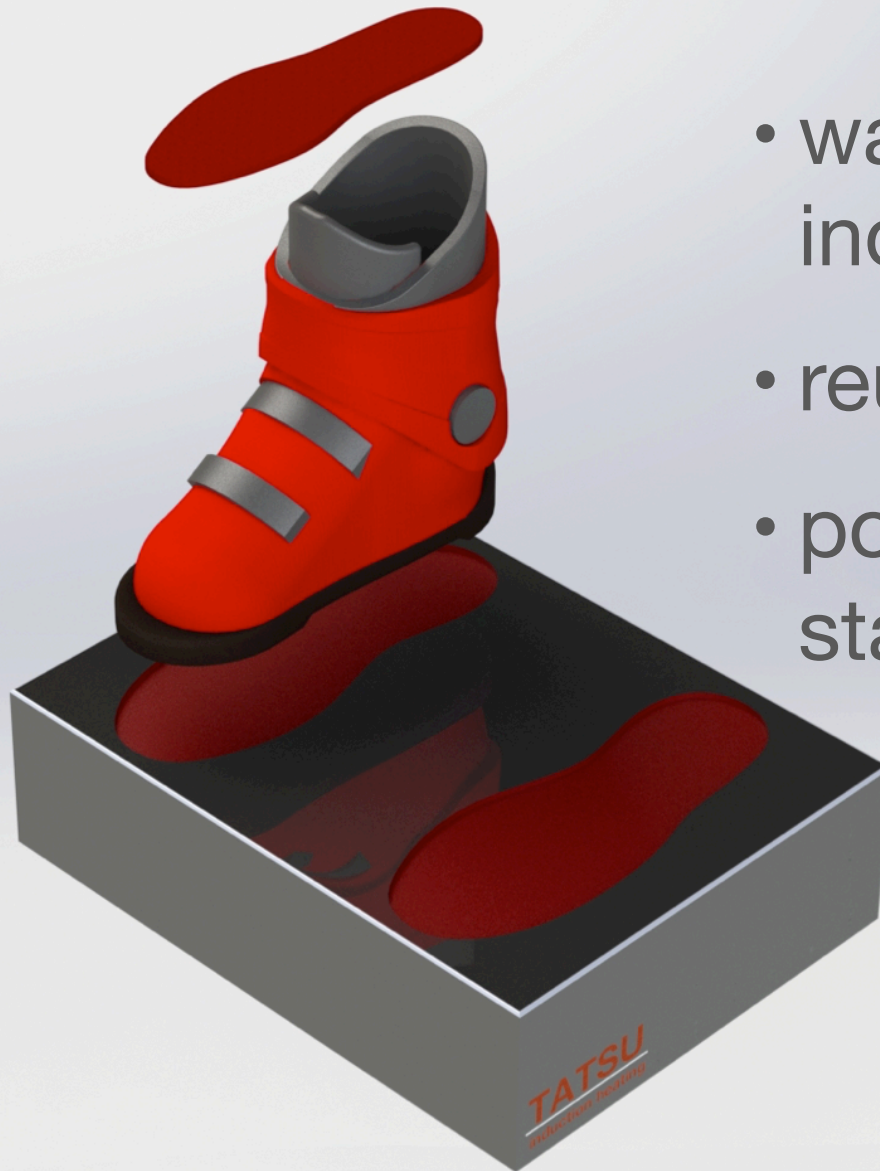


Product Motivation

“When my ski team is out on the slopes, we have to check for **frostnip and frostbite to make sure no one gets hurt.”**



Product Overview



- warms toes using inductive heating
- reusable insoles
- portable base station

User Feedback

“It would need to be **quick- I want to get back out on the slopes.”**

“Will it melt my boots? ”

“I don’t want to have to take my skis off just to use the heater.”

“Is it **safe? What if it burns my foot?”**

“I want control over how warm my feet are.”

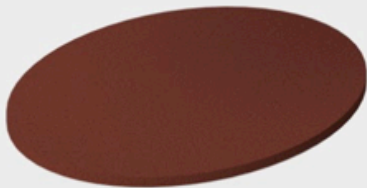
“My boots are already pretty tight and don’t have much room for another layer.”

“Comfort** is the most important thing with inserts; I want to forget it’s there.”**

Product Contract

| Customer Need | Product Attributes | Engineering Specs |
|-----------------------------|---|---|
| Quick and efficient process | Speed of heating | Coil reaches goal temperature in 30 seconds; heats toes in > 60 seconds |
| Control over temperature | Feedback and Control loops | Temperature feedback loop regulates internal temperature to ± 2 °C |
| Safety | Customer control over interaction | Customer can step off platform and end heating in 1-2 seconds |
| | Failsafes to prevent burns | Failsafe: heating will not start unless the station can communicate with the temperature sensing insert |
| Comfort | Shape and form factor of metal in inserts | Insert must be able to bend on a 30° angle |

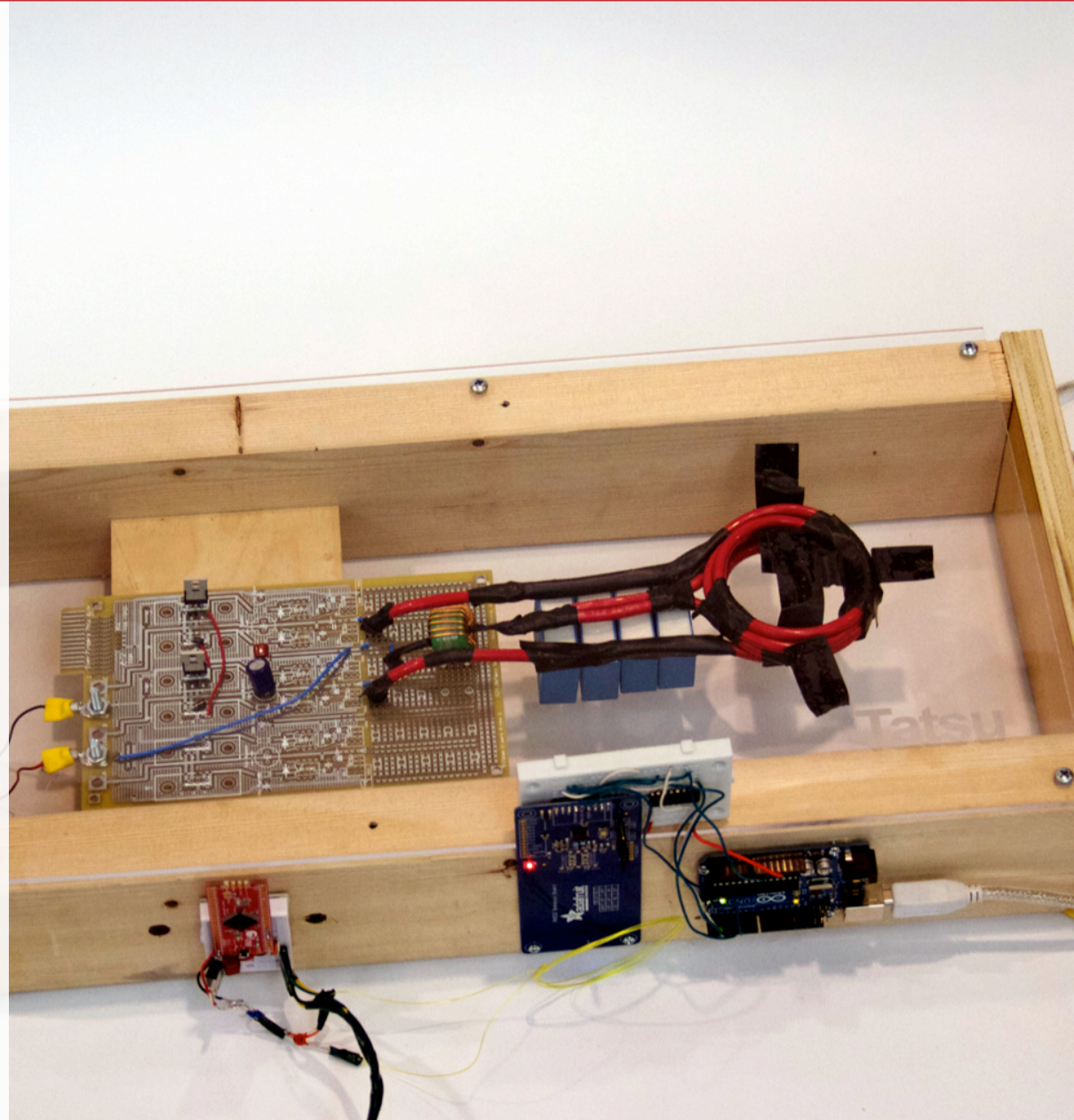
Heated Insole



- reusable insole
- thin steel insert
- embedded sensors
- completely wireless
- price: \$40/pair

Base Station

- inductive heating
- wireless feedback
- temperature control
- price: \$400



Product Mockup



- fast heating
- temperature sensing
- comfort

Future Plans

- base station robustness
- insole sizing
- insole heat retention
- integrated temperature feedback
- temperature regulation

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