



# WHAT IS SIT?

*simple...effective...convenient*



Today's most simple and cost-effective self inflating tire system.



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*Key principles of SIT design:*

## ▶ **SIMPLE**

- *Tire-integrated feature uses the motion of the vehicle to re-inflate the tire with atmospheric air*
- *Consists of only two components*
  - **Tire-integrated chamber**
  - **Managing valve**

## ▶ **COST EFFECTIVE**

- *Easy integration into current manufacturing processes*
- *Marginal extra production costs*



## WHY SIT?

*simple...effective...convenient*

*SIT answers key social concerns:*

▶ **SAFETY**

▶ **ECONOMY**

▶ **ENVIRONMENT**



## WHY SIT?

*simple...effective...convenient*

*Under-inflated tires undermine:*

▶ **SAFETY**

- *660 lives and 33,000 injuries every year*

▶ **FUEL ECONOMY**

- *Extra \$3.7 billion in fuel annually*

▶ **TIRE LONGEVITY**

- *Extra 4.5 million tires replaced every year*



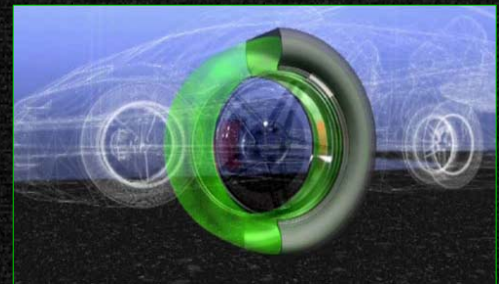
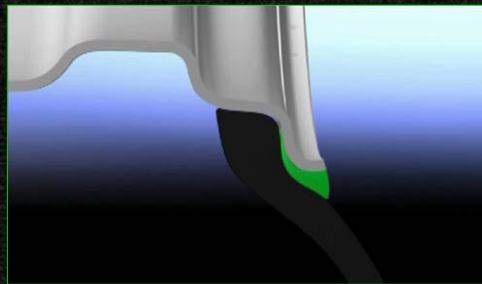
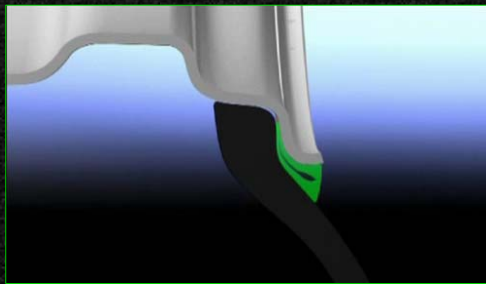
## HOW IT WORKS?

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- The SIT System is based on proven, highly *reliable peristaltic pump principles*. It integrates a tube chamber into the tire wall.



- The *tube chamber is kept closed at its lowest point* by the normal tire deformation caused by the weight of the vehicle.



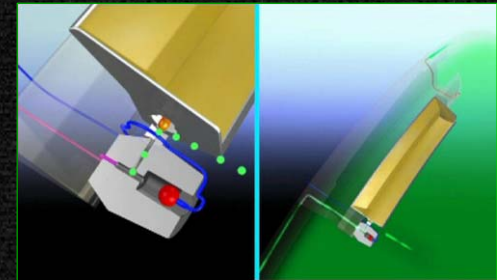
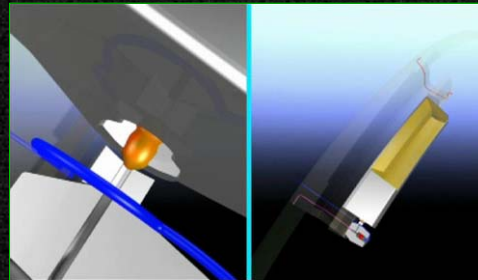
- As the tire turns against the road this closure moves along the tube chamber, *forcing more air into the tire with each wheel revolution*. Simultaneously, it pulls outside air back into the chamber from the other side.



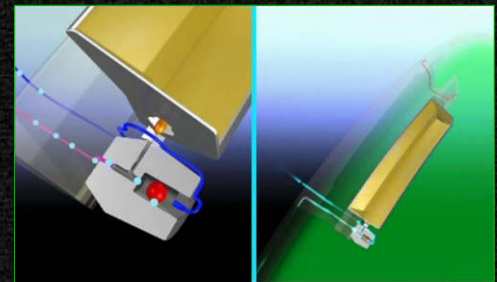
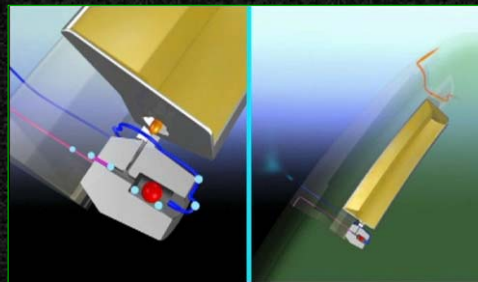
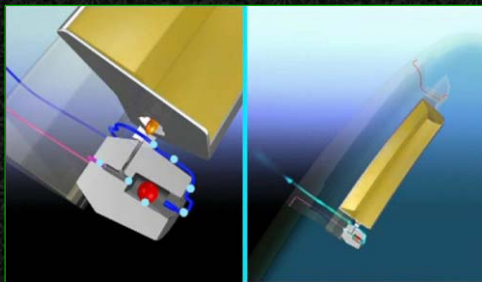
## HOW IT WORKS?

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- The chamber continuously pushes air into the tire *until it reaches its optimal pressure*. Then, a managing valve stops the intake of outside air and allows for inside circulation between the tire and the tube chamber, back and forth.



- Once the tire pressure falls below its optimal level, *the managing valve* disables internal air circulation and *opens the intake of atmospheric air* to activate the inflation again.



- As a result, this simple solution ensures that *all tires operate at optimal pressure at all times*.



# KEY BENEFITS

*simple...effective...convenient*

*For drivers:*

## ▶ **SAFETY**

- *Optimal car stability and stopping power*

## ▶ **ENVIRONMENT**

- *Less carbon dioxide*
- *Less tire debris*
- *Fewer scrap tires*

## ▶ **FUEL EFFICIENCY**

- *Lower rolling resistance*

## ▶ **CONVENIENCE**

- *Ends inflating tires at gas stations*

## ▶ **TIRE LONGEVITY**

- *Improves tire life-span*



# KEY BENEFITS

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*For manufacturers:*

▶ **DIFFERENTIATION**

- *Significant added value to consumers*

▶ **LOW VARIABLE COSTS**

- *SIT is simple and easy to manufacture*
- *Production costs only marginally increase*

▶ **REGULATORY COMPLIANCE**

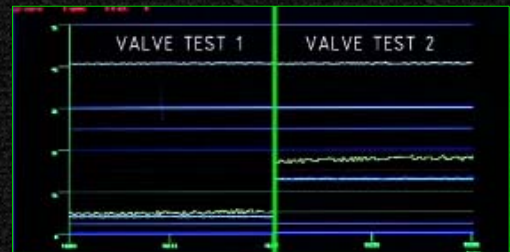
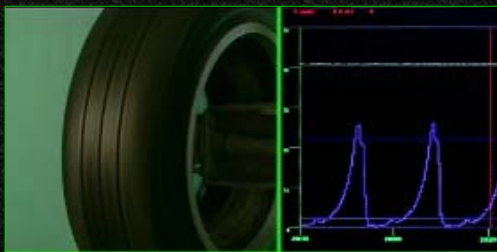
- *SIT addresses the core problem of tire under-inflation directly*
- *It works independently, but also with legally required TPMS*



# TEST RESULTS

*simple...effective...convenient*

- Between regular tires and rims *there is sufficient pressure* to enable tire inflation.
- The inflation capability *does not depend on the speed* of the vehicle.
- The *tube chamber* between the rim and the tire wall *is easy to produce* with marginal extra production costs.





# CONTACTS

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- CODA Development s.r.o.  
Taborska 438/51  
140 00 Prague 4  
CZECH REPUBLIC
- [\*info@selfinflatingtire.com\*](mailto:info@selfinflatingtire.com)
- [\*www.selfinflatingtire.com\*](http://www.selfinflatingtire.com)