



The Comfort Zone Experience

ADVANCING THE SCIENCE OF AIR DISTRIBUTION



Comfort, Redefined.

Since 1946, Titus has focused on technologically advanced products that create the highest degree of comfort.

We've consistently led the industry by breaking the barriers of expectation and convention when it comes to technology. We've redefined how technology drives, influences and supports air management. And by being first to market with the most innovative approaches to air distribution, we're proud to say that the marketplace has taken notice, and is counting on us to lead the way into the next decade. A challenge we're more than happy to accommodate.

Titus has raised the bar on design, proving that functional can also be beautiful. And we've redefined what it means to be energy efficient, with a collection of smart technology products that optimize the use of natural resources.

Titus has also redefined what it means to work with an air management products partner. We pride ourselves on listening and responding so that we can not only meet expectations, but also exceed them. Service has been, and will always be, our main focus at Titus. And, it's why so many of our customers keep coming back.

Welcome to your new comfort zone. It starts here.



the comfort zone

e x p e r i e n c e

innovative / technology tower

- SUR-40 Touch Table with Microsoft® PixelSense™ technology
- Product cards that offer more information about each product
- Interactive lab display
- Woodgrain finish options
- Projector display from SUR-40





Innovative / Technology Tower

The SUR-40 Touch Table Experience

The interactive Samsung SUR-40 Touch Table is an impressive addition to the Titus Comfort Zone. The custom interface installed allows the user to gain in-depth information on the different lab rooms, view marketing collateral and provide a deeper explanation about our products by utilizing specific product cards. The table uses Microsoft® PixelSense™ technology to recognize fingers, hands or any other object placed on the screen allowing people to collaborate and view different items at the same time. For an added bonus, the SUR-40 is connected to a projector that displays on the other side of the tower. This is an ideal option to display content to large audiences.

Woodgrain Finishes Spectrum Diffuser Wall

For high-end properties that need a little more detail to complete the project, we offer woodgrain finishes as an option. The diffuser wall consists of our Spectrum diffuser finished in a multitude of woodgrain finish samples.

the comfort zone

e x p e r i e n c e

energy / underfloor tower

- Ambient energy harvesting technology
- Displacement Ventilation
- VAV diffuser options
- Underfloor diffusers and terminal units





Energy / Underfloor Tower

Energy Harvester Options

Incorporating new technology into HVAC products is at the forefront of Titus' tagline - to Redefine your comfort zone™. The solar powered platform we began with the EOS & later the Solar Plexicon, has yielded a new avenue to explore in all product lines. These devices provide heating and cooling into the occupied space and are powered by ambient light. The EOS solves the problem of overhead heating and cooling along the building perimeter while the Displacement Ventilation Solar Plexicon offers a unique alternative to conventional heating and cooling. Look for more energy savings products in the future from Titus.

Underfloor & VAV Diffuser Products

UnderFloor Air Distribution (UFAD) has been used for quite some time and Titus has an extensive line of products that will meet your project needs. Our underfloor diffusers rapidly mix room air into the supply air at low velocities, creating the perfect underfloor system.

The T3SQ VAV diffuser combines energy savings with flexibility and accuracy. It modulates the air volume delivered to a zone to accurately control cooling and heating conditions. The unique variable geometry design results in maximum air distribution effectiveness at any airflow, for superior comfort conditions.

Our underfloor and vav products are great alternatives to conventional air distribution. They offer tremendous energy savings over the life of the building and can contribute toward achieving LEED™ certification. We've only scratched the surface with the energy saving possibilities that these systems offer. Look for more innovative air distribution solutions from Titus soon.

the comfort zone
e x p e r i e n c e

terminal units / chilled beams tower

- LSC fan powered induction
- Chilled Beams
- TAO
- Terminal unit motor sound comparison
- Radiant Ceiling Panels





Terminal Units / Chilled Beams Tower

Terminal Unit Options

Our extensive terminal unit product lines have long been a standard in the HVAC industry. We offer several options and a multitude of configurations to meet any application need. As we continue to advance the science of air distribution, we have also introduced new liners, controls and access panel options.

Chilled Beam Products

While chilled beams are relatively new in the United States, they have been a viable option for air distribution overseas for several years. Our new product offering consists of active and passive beams, radiant ceiling panels and the new TAO unit. This revolutionary product combines displacement ventilation and chilled beam technology into one innovative unit. It is perfect for educational facilities.



the comfort zone

e x p e r i e n c e

critical environment room

- Operating room ventilation
- Fume hood for laboratory testing
- Research lab ventilation
- Critical environment kiosk





Critical Environment Testing Room

Critical Environment Room

The Critical Environment room dimensions are 28'L x 20'W x 9'H. It's designed to demonstrate (1) a typical operating room air distribution system; TLF and SteriTec, (2) display laboratory diffusers; TriTec, RadiaTec and Fan Filter Diffusers. At the laboratory diffusers section, a typical fume hood with variable cfm and sash opening is installed. Smoke demonstrations can be performed to show the air flow pattern for various types of critical environment applications.

The primary function is to develop and model laminar flows in a cleanroom or laboratory setting that provides a cleansing air wash or an isolating air curtain. Physical site conditions can be modeled in the room to determine the effect of equipment placement on air flow patterns. Smoke can be easily introduced into the air stream by remote control and viewing windows are available on two sides of the room for observers. Test air is precisely delivered to a diffuser by a computer-controlled delivery system at a flow rate of up to 5,000 cfm. Isothermal, heated or chilled air can be supplied to any diffuser inside the critical environment room for a 30 degree F temperature differential. This room is frequently used to demonstrate a 12 x 12-foot SteriTec diffuser air curtain system.

the comfort zone

e x p e r i e n c e

underfloor room

- Cold wall temperature adjustment (extreme cold or heat)
- Underfloor diffuser testing
- Ceiling diffuser testing
- Ability to create mock up environments
- Underfloor kiosk





Underfloor Testing Room

Underfloor Room

The UFAD room was constructed similar to the previous one at our old location. Its dimensions are 32'L x 28'W x 9'H. This room is raised 18" from the lab floor to create a sealed plenum area underneath which is pressurized with supply air. On one side of the room, a walk-in freezer is assembled and separated from the UFAD room with a 15' x 9' glass. A space heater is installed inside the cold wall as well. Freezer temperature can be set from 0 degrees F to 120 degrees F to resemble various outdoor ambient temperatures of major cities throughout the world.

The UFAD Room is also a multi-purpose test room used to demonstrate cold wall situations and underfloor products; and can be used as an auxiliary throw room. The room is equipped to demonstrate the air patterns created by various models of ceiling diffusers. Titus also utilizes thermal imaging to show the differences in the temperature during smoke test demonstrations.

Underfloor diffusers are floor mounted to simulate site installation and the test air is precisely delivered to the diffusers at a flow rate of up to 5,000 cfm. Site requirements for equipment and furnishings can be modeled for an accurate determination of airflow patterns and temperature mapping. The effects of sills and soffits on air diffusion against an external wall can be studied as well.

the comfort zone

e x p e r i e n c e

throw room

- Radiant floor heating system
- Multiple diffusers can be tested
- Modular hydronic system for chilled beam testing
- Ability to create mock up environments
- Throw room kiosk





Throw Room Testing

Throw Room

The new Throw Room size has doubled in length and its dimensions are 80'L x 28'W x 9'H. With such an immense room available to test products, slot diffusers with long throw, large size displacement ventilation units and chilled beam products can now be tested with increased accuracy. An additional modular hydronic system enables us to test chilled beam and water sourced products while units are operating at cooling and/or heating mode. A 20ft x 40ft radiant floor heater is installed under the floor for better load control of the room during various performance testing.

It is used to monitor and record air velocity and temperatures by an array of omni-directional hot wire anemometers and thermocouples in an unobstructed room with a 9-foot ceiling and removable tiles. Air velocity and temperature sensors acquire data in a matrix grid providing 3D array data generation for air and temperature distribution mapping within a comfort space. The test air is precisely delivered to the test product by a computer-controlled delivery system at a flow rate of up to 5,000 cfm. Titus also utilizes thermal imaging to show the differences in the temperature during smoke test demonstrations.

The exterior walls are heavily insulated so test results are not influenced by outdoor temperature extremes. The room is also equipped with a black ceiling and sidewall lighting for improved photography of smoke patterns and flow visualization. Typical tests include isothermal throw tests and isovel air pattern mapping in accordance with ASHRAE Standard 70.

the comfort zone
e x p e r i e n c e

reverb room

- Room-inside-a-room design
- New sound measuring equipment
- Modular hydronic system to test sound of chilled beams
- Reverb room kiosk





Reverb Room Testing

Reverb Room

Our new reverberation room is constructed larger in size (45'L x 25'W x 15'H) to allow pure tone sound testing qualification per AHRI 220-2007. The room is acoustically isolated from the outside noise and vibration with room-inside-a-room construction and isolation base. Its sound measurement equipment is updated for more precise and highly repeatable testing. With the addition of custom made modular hydronic system, products with water cooling/heating coils can be tested for sound performance while units are operating at cooling and/or heating mode.

The room is used to determine the acoustical properties (sound power) of all Titus products including grilles, diffusers and terminal units. The internal volume is approximately 20,000 cubic feet constructed of hard surfaced walls for optimum results and meets the requirements of ANSI S12.32 for a reverberant test chamber. Grilles and diffusers are tested in accordance with ASHRAE Standard 70. Terminal units are tested in accordance with ASHRAE Standard 130 and rated in accordance with AHRI Standard 880. Fan coil units are tested in accordance with AHRI Standard 350.

Every Titus product cataloged since 1974 has been tested in our old reverberation room. That room was also used for countless customer mock-ups and product demonstrations. Over the years, Titus has continued to improve the reverberation room and its instrumentation so product qualification tests can be continued. Our new facility will allow us to continue to bring innovative solutions to the HVAC industry.

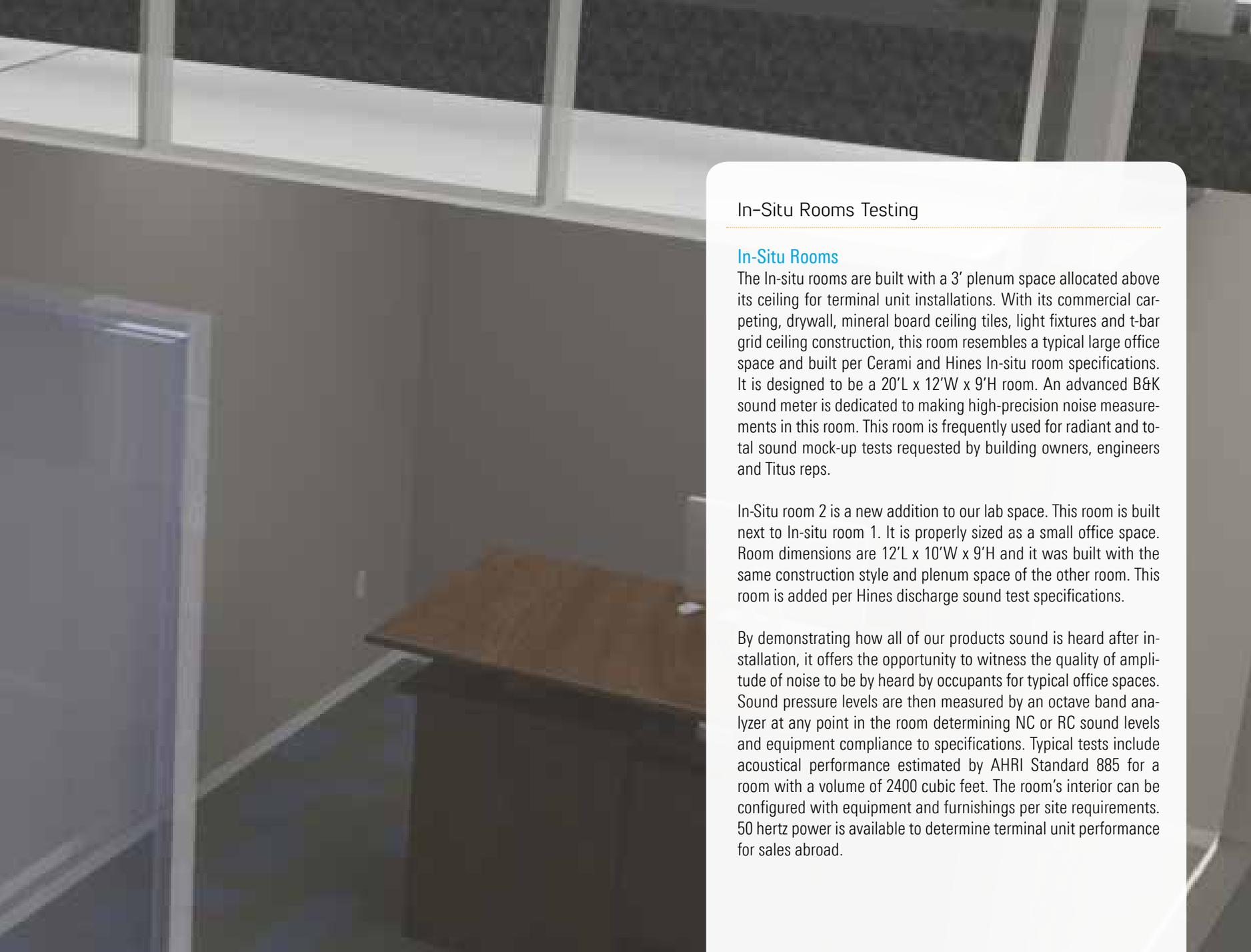
the comfort zone

e x p e r i e n c e

In-Situ rooms 1 and 2

- Built with 3' plenum space above the ceiling
- New sound measuring equipment



The background image shows a modern office space. In the foreground, there is a wooden desk with a dark metal base. To the left, a glass door or partition is visible. In the background, a large window with a white frame looks out onto a dark exterior. The lighting is soft and even.

In-Situ Rooms Testing

In-Situ Rooms

The In-situ rooms are built with a 3' plenum space allocated above its ceiling for terminal unit installations. With its commercial carpeting, drywall, mineral board ceiling tiles, light fixtures and t-bar grid ceiling construction, this room resembles a typical large office space and built per Cerami and Hines In-situ room specifications. It is designed to be a 20'L x 12'W x 9'H room. An advanced B&K sound meter is dedicated to making high-precision noise measurements in this room. This room is frequently used for radiant and total sound mock-up tests requested by building owners, engineers and Titus reps.

In-Situ room 2 is a new addition to our lab space. This room is built next to In-situ room 1. It is properly sized as a small office space. Room dimensions are 12'L x 10'W x 9'H and it was built with the same construction style and plenum space of the other room. This room is added per Hines discharge sound test specifications.

By demonstrating how all of our products sound is heard after installation, it offers the opportunity to witness the quality of amplitude of noise to be heard by occupants for typical office spaces. Sound pressure levels are then measured by an octave band analyzer at any point in the room determining NC or RC sound levels and equipment compliance to specifications. Typical tests include acoustical performance estimated by AHRI Standard 885 for a room with a volume of 2400 cubic feet. The room's interior can be configured with equipment and furnishings per site requirements. 50 hertz power is available to determine terminal unit performance for sales abroad.

the comfort zone
e x p e r i e n c e

kiosk stations

- Smoke video demonstrations
- Podcasts
- Instructional videos
- Product images



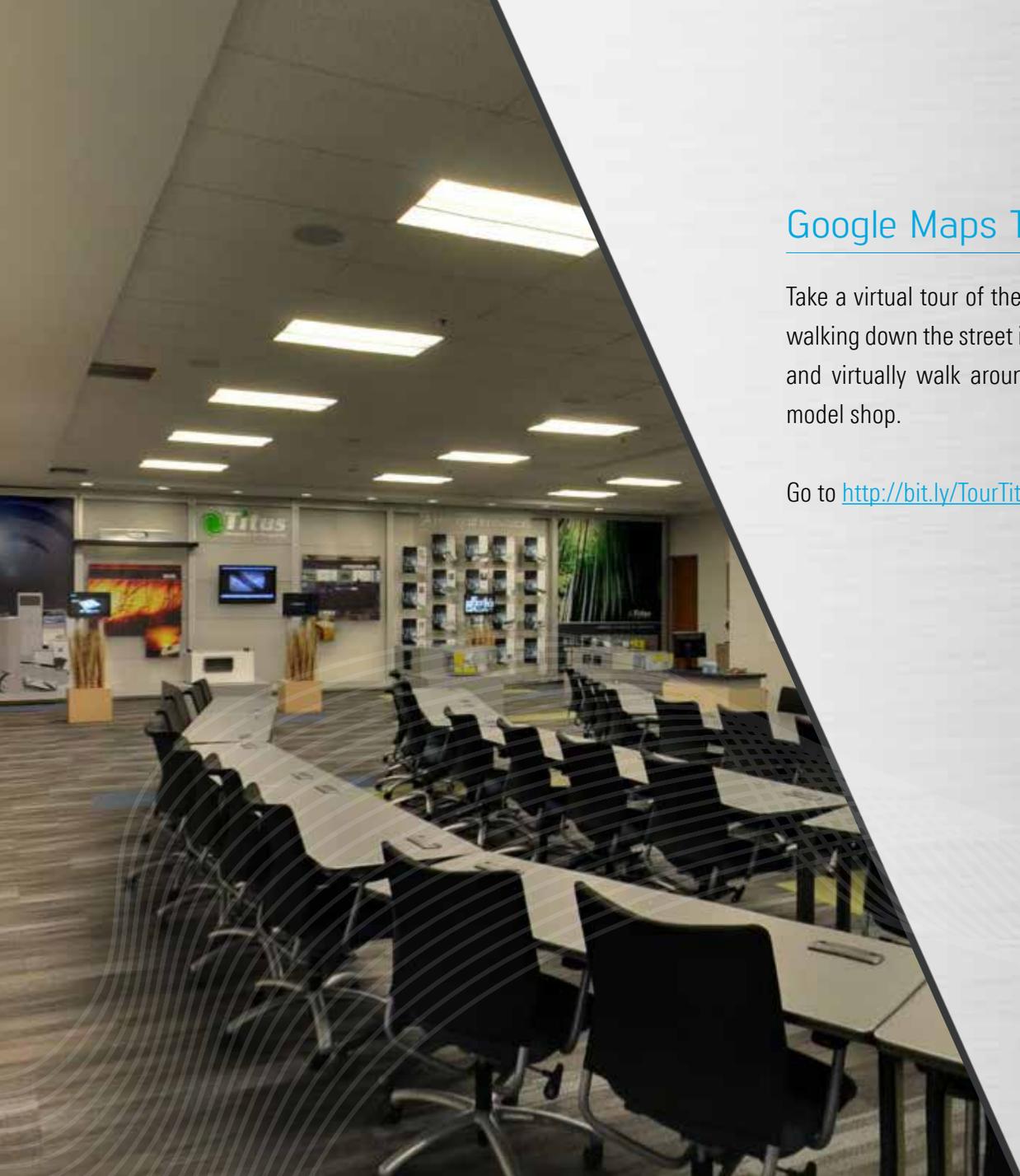


Kiosk Stations

Kiosk Stations

The Comfort Zone contains five kiosk stations positioned throughout the lab with the ability to offer more information on products. There are four room specific stations and one product specific station. With the exception of the critical environment kiosk, the kiosks for the reverb room, the throw room and the underfloor room can all be found within their assigned testing rooms. The critical station is located just outside the testing room. The product specific Alpha kiosk focuses on the Alpha BACnet controller and sits behind the critical environment one.

We've loaded various smoke demonstrations, instructional videos, podcasts and other media to showcase the advantages our products have versus the competition. Take a moment to explore these stations to not only learn more about the products themselves, but Titus too.



Google Maps Tour

Take a virtual tour of the Titus Comfort Zone on Google Maps! Just like walking down the street in Google Maps, you can now enter our building and virtually walk around the training room, labs, display areas, and model shop.

Go to <http://bit.ly/TourTitus> to see it today.

Notes

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