

Point to prove

ADAM GAVINE DISCOVERS THAT A NEW PROVING GROUND BEING BUILT ON THE USA'S EAST COAST WILL PLACE VEHICLE DYNAMICS TESTING AT ITS VERY CORE

"You cannot simulate subjective feeling. It's more than just handling – it's the tangibles that are crucial for brand identity"

Simon Cobb, chief operating officer, NCCAR



After several years of planning and careful funding negotiations, the North Carolina Center for Automotive Research (NCCAR) has placed a US\$8.4 million contract for the initial development of its 253ha site. Its creators hope that the not-for-profit facility will become a hub for vehicle research and development expertise on the USA's east coast, and will provide an economic development stimulus to an impoverished area.

North Carolina-based PLT Construction, working on behalf of lead project engineering firm McKim & Creed, Wilson, is beginning work on Phase 1A of NCCAR, which is being funded through a combination of state and local government and regeneration commissions, led by the North Carolina General Assembly.

Vehicle dynamics development will be at the heart of NCCAR. The contract with PLT includes construction of the first 2.1 miles of an eventual 4.6-mile ride and handling course. Designed by Alastair McQueen of Lotus, this track will have plenty of elevation change to provide a full complement of chassis test scenarios, and should become a signature feature of NCCAR. The first of ultimately two vehicle dynamics areas is also in Phase 1A.

"The idea is to establish a test facility where there's a brains trust," explains Simon Cobb, the facility's chief operating officer, who formerly worked at NCCAR partner Lotus. "Rather than make cars in a greenfield area where there's little infrastructure, this will start developing research capability. It will develop a cluster of automotive technology – a whole campus. There's also a 500-acre business site adjacent to the proving ground where we envisage niche industries might want to create a base and maybe share some high-capital equipment.

"We hope people will like the way they can work here, and ultimately want to establish a base here," he continues. "In conjunction with



that we're doing some collaborative programs with local universities. The program with North Carolina State University is the most advanced of those, and we have already found a student who will be coming to us as an employee. Most of the graduates from this area have to move away if they want to do automotive. Here they'll have somewhere where they can do really cool auto stuff."

In the past, proving grounds were heavily geared toward testing durability, but NCCAR's market research shows that OEMs and suppliers are now focusing on other areas. So NCCAR eschews traditional features such as pavé in favor of support for activities such

as hard-to-simulate subjective analysis, chassis brake/electronics tuning, autonomous vehicle testing, and driver training. On-site laboratories will focus on high-tech niches such as fuel cells and advanced chassis dynamics.

"A lot of the conventional test work is done by computer and/or in the lab," reasons Cobb. "What you cannot simulate is subjective feeling. It's more than just handling – it's the tangibles that are absolutely crucial for brand identity."

NCCAR hopes to back up its unusual mix of features with top-notch working environments. "Customers should be able to do conventional work as well as field

SNAKES ALIVE

Elsewhere on the US east coast, the Virginia Institute for Performance Engineering and Research (VIPER) has strong similarities with NCCAR in terms of its funding, academic partnerships and economic goals. Virginia has also invested strongly in post-tobacco economic regeneration.

VIPER is based at the scenic Virginia International Raceway, a favorite road course for NASCAR testing. It has more of a motorsport focus than NCCAR is planning.

The institute can make various pieces of test equipment available, including a custom-designed Moog FCS eight-post rig, Kistler RoadDyn S635 measuring wheel, Roehrig EMA 2k shock dyno, and Pi Research Sigma Elite datalogging.

testing. They'll be able to lease a double-bay garage with an office, shower, kitchen, WiFi connections, and basically it should be a home from home," Cobb says.

NCCAR also occupies a comparatively unusual location. "There aren't many test facilities on the east coast – there's Michelin at Laurens, Harley Davidson down in Florida, and quite a few racetracks, but the racetracks don't offer a controlled environment."

Despite the North Carolina location, NASCAR teams won't be the target audience. "We're not deliberately targeting them, although they may well use us," says Cobb. "Other groups, such as military vehicles, are of more interest to us. We are well located for these users."

Good, natural tree cover provides excellent security for all proving ground users, military or otherwise. The entrance is secluded, and the low profile of the site ties in with what Cobb hopes will provide a further attraction to potential customers: NCCAR's independent ownership.

Land clearance is complete and the initial ride and handling course is scheduled to open in October 2009, along with the smaller of the two planned vehicle dynamics areas.

"Phase 1A is a subset of features that gives us a critical mass for a sustainable operation, and until we get that, we're still in the development stage," says Cobb. "As soon as we move in, I will encourage our state legislators to help us with Phase 1B. We want that to start as soon as this phase is operational."



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