The Business

Going Mobile

A Dutch University Aims to Teach Students on the Run

By JAMES M. DORSEY

ENSCHEDE, Netherlands—Mobile education is big business in this Dutch border town.

The University of Twente, established here in 1960 to generate employment in one of the Netherlands' most underdeveloped areas, is attempting to create Europe's first virtual and mobile university. The school already offers an e-learning program, through Web-based software that allows students to follow courses, pick up and turn in assignments from their computers and communicate with fellow students and professors online. Now, Twente is aiming to have students do all that and more—via their mobile phones. It's developing, in conjunction with several companies, Europe's first common wireless standard geared toward education applications, known as the M-poort project.

"The telephone is going to become the most important tool of learning," says Frans van Vught, the university's director. "It's no longer the blackboard and chalk or the PC. It's getting information from anywhere in the world when you want and in the way you want."

Adds Ron Noordhuis, who's overseeing an effort by former Dutch telecom monopoly **KPN** NV to supply mobile phones for M-poort: "The university and the province of Twente is a testing ground for what services work on various mobile platforms."

Business Matters

Twente also is using its work with technology companies to portray itself as an entrepreneurial school. To that end, it has co-founded an adjacent business and science park, where it hosts telecom companies involved in the development of the infrastructure or those looking to take advantage of the university's offerings. Many of the 175 companies that have set up shop in the park—including Sweden's **Telefon AB L.M. Ericsson**, **Lucent Technologies** Inc., Murray Hill, New Jersey, and KPN—were attracted to the university because of its cutting-edge research in biotechnology and the fact that it has the Netherlands' only information-technology faculty. Some companies, including KPN and Ericsson, even supply part-time professors to teach at the school's applied-communications department.

Such alliances are unusual in Europe and especially in the Netherlands, a country that cherishes the independence of its educational institutions and frowns on close links between business and academia. But because the country is eager to get the cutting edge in technology, Dutch Education Minister Louis Marie Hermans is expected to provide government funding for the M-poort project, developed in cooperation with major companies, including Ericsson, **Deloitte & Touche** LLP, Wilton, Connecticut, and a number of well-known Dutch software firms.

Mr. van Vught says there are three ingredients needed in building a virtual European campus: technology, mobility and content. Twente already has the content.

Getting Connected

To get the other two, the school has started making sure students are connected. KPN in December distributed to the university's 10,000 students, free of charge, S35i Wireless Application Protocol-enabled phones made by Germany's **Siemens** AG. So far, though, the WAP telephones have had little educational value. With mobile data connections at 9,600 bytes per second and an array of services still in development, students have used the phones primarily to contact fellow students and teachers.

But that is starting to change with the help of WAP-5, a university-based mobile-applications company founded by four students with university seed capital. WAP-5 is using current-generation mobile technology to connect students to teachers and university services and information.

For instance, Jeroen Oudeegtbrink, a 38-year-old primary-school teacher studying applied education, strolled through the campus on a recent Friday checking his exam results on a mobile phone with an application designed by WAP-5. "Not bad," he says as he looks at the grades on his phone display. Mr. Oudeegtbrink also uses the phone to pick up his e-mail.

In the Wings

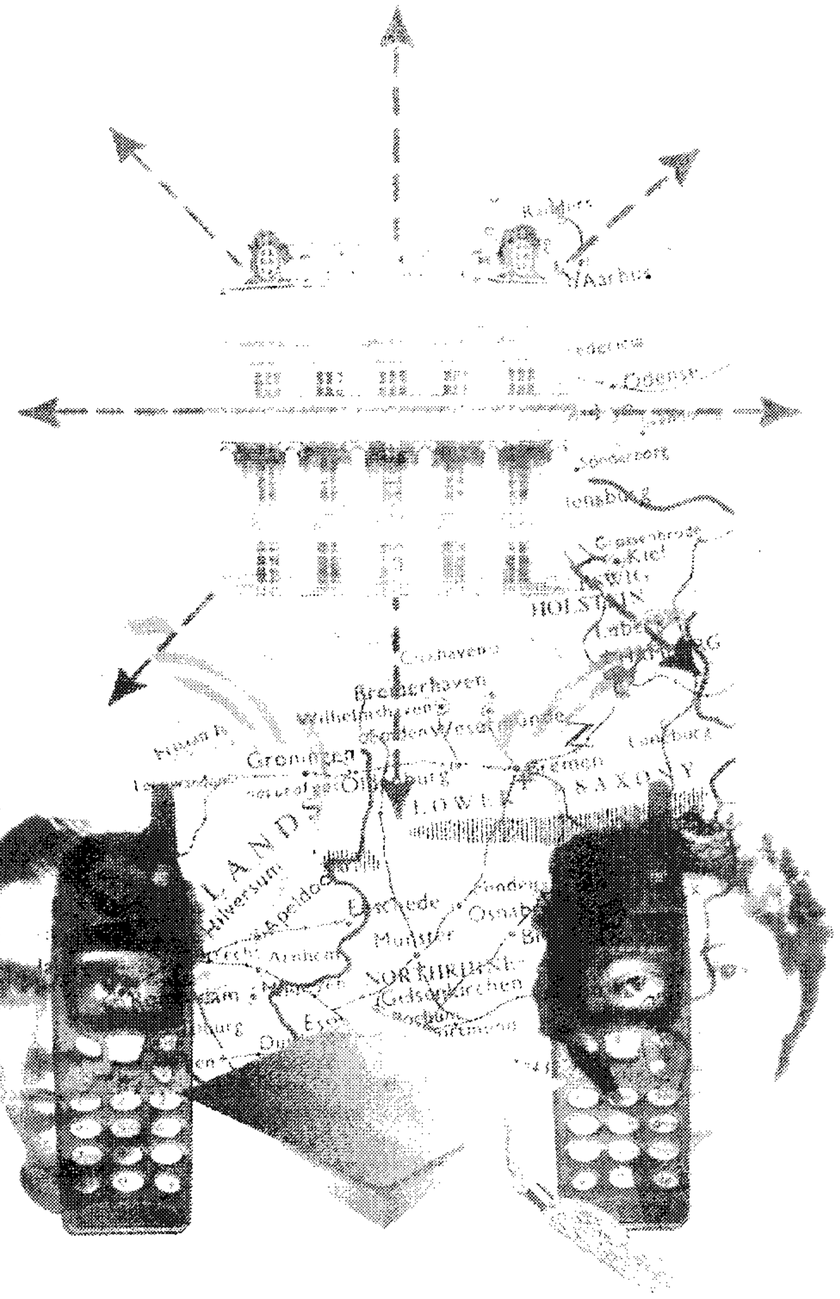
So far, WAP-5 is the only company delivering such services at Twente. The bigger companies working with the university are waiting for second- and third-generation mobile communications—with more speed and greater capabilities—to get in the game.

When those are introduced, e-learning systems now used on PCs and laptops will be accessible via mobile phones, as well. One is Teletop, the Web-based software developed by the university as the basis for its e-learning programs. The software, built on the Lotus Learning Space program of computer maker **International Business Machines** Corp., Armonk, New York, has been in place since 1997. At the applied-education department, all classes are available via the PC. Other departments are still in the process of putting everything online.

But the software already has changed Mr. Oudeegtbrink's life and those of many of his fellow students. And it will undoubtedly have a larger impact when it's available on mobile phones.

"It's made a world of difference," Mr. Oudeegtbrink says. "I can work when I feel like it. All I have to do is look online at what I have to do. I have more control of my time and am less occupied with logistics."

Somaya Benalloucha, a 27-year-old fourth-year education student, sits in the faculty's coffee shop, banging away at her Toshiba laptop. Through a wireless local area network connection she chats online with fellow students with whom she is researching the structure of various Web sites. Armed with Teletop and her laptop, Ms. Benalloucha only comes to the campus if she wants to attend a class or has an appointment. "I can sit at home in front of the TV and study," she says.



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Teletop may have made life easier for many students, but it has forced teachers to structure their classes far more. "You no longer can prepare classes at the last moment," says Allard Strijker, one of the program's developers, who teaches an online course in teaching and training technology. "You've got to structure your courses far better and have them on the Net weeks in advance. It's also increased quality control. The director of education continuously controls the progress of the course."

While students and teachers have embraced e-learning, some fear they may be losing human contact with their counterparts.

"I want to have personal contact. I don't want to sit behind a computer the whole day," says 20-year-old Willem de Groot, an information-technology student in his third year and one of the founders of WAP-5.

Mr. van Vught, the university director, isn't insensitive to Mr. de Groot's concern. "It's an issue of finding the balance between [information and communication technology] and e-learning on the one hand and traditional, humanistic, Hellenistic learning on the other," he says. "It's not just about technology and the Web but how you coach people. Coaching is necessary to create independent and critical minds. We haven't forgotten Socrates' tree." ▦

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