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Focus on innovation

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Linnea Bergeld is close to the clients

KNOWLEDGE:
The solvency solution

Leaps & bounds

Innovative technology unveiled in developing nations

Electric cars will be adopted more rapidly in developing nations than in the developed world.

Jamais Cascio

NYNAS

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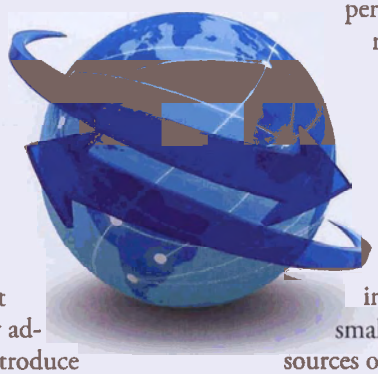
From super-efficient energy sources in India to innovative new ways of using mobile phones in Africa, technology in emerging markets is leapfrogging ahead of the West.

In the developed world today virtually everyone has a mobile phone. Still it hasn't been quick; today's technology communications systems have slowly evolved over more than a century. At the same time, many people in developed nations share a desire to obtain their energy from sustainable, renewable sources, but in many cases their electricity still comes from highly polluting coal-powered plants. Looking at developing nations, there are many examples where societies have leapfrogged these intermediate technologies, going from no electricity directly to solar and advanced biofuels in the case of some Indian villages, and from no fixed telephones to innovative uses of mobile phones in Africa.



CALIFORNIA-BASED writer Jamais Cascio, who is one of *Foreign Policy* magazine's Top 100 Global Thinkers, says: "Leapfrogging is the capacity of a nation that is not as technologically advanced as its rivals to introduce more cutting-edge technologies and economic methods than those rivals. They can do this more rapidly and more thoroughly simply because they lack an existing legacy infrastructure." So in Africa, Cascio says, mobile phone minutes have become a form of tradable currency "because there, you didn't have much of an existing financial system to integrate new technologies into." Similarly, he says, electric cars will likely be adopted more rapidly in developing nations than in the West "simply because there is less of an installed infrastructure of gasoline stations."

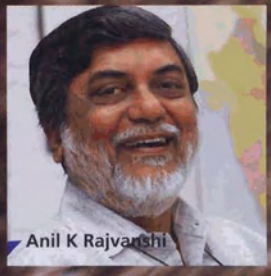
ONE ADVANTAGE these leapfrogging nations get is cost. The first handheld mobile phone cost about USD 4,000 – at 1983 prices – compared with about USD 20 for a handset in Africa today. "Another advantage is that it creates an open platform for innovation, a real opportunity to do something new that people who've been using these technologies elsewhere may not have thought of or even considered possible," says Cascio.

In rural India, where 60 percent of the rural population is without electricity, leapfrogging entails jumping over fossil-based electricity from coal-fired power stations and going straight into small-scale, renewable sources of energy. Anil K Rajvanshi, director of the Nimbkar Agricultural Research Institute, and his colleagues have developed the NARI Lanstove, which not only provides high-quality light but at the same time cooks a complete meal for a family of five, while boiling 10 litres of water. Because of the huge inefficiency of producing and transmitting electricity from a standard

Adele Botha

We are running a project where university students tutor high school kids in maths through instant messaging.

Adele Botha, Meraka Institute, South Africa



Anil K Rajvanshi

Jamais Cascio

Africa, with the highest mobile phone growth rate in the world, is entering the information age from a mobile-centric point of view.

large-scale power plant, this stove will give Indian villagers a source of energy that is actually many times cleaner and more efficient than that used by many Western consumers.

Rajvanshi was also involved in the development of the world's first gasifier powered by sugarcane leaves. About 90 power plants have been built generating 6 MW each. "You can produce clean power in rural areas for rural areas, and by paying money for agricultural residues you create wealth," he says.

BEFORE THE advent of the mobile phone, telephony in Africa was largely limited to urban areas. But over the past five years Africa has recorded the world's fastest growth in mobile phone use, and 92 percent of handsets there today are web-enabled. "Everybody in Africa has access to a mobile phone today," says Adele Botha, principal researcher in next-generation ICT and mobile systems at the Meraka Institute of the Council for Scientific and Industrial Research in Pretoria, South Africa.

BESIDES THE USE of mobile phone minutes as currency, there are many other African examples of mobile telephony quickly being adopted for uses largely overlooked in the developed world. "We are running a project where we use university students to tutor high school kids in maths through instant messaging," says Botha. "Nokia is also working on a product to provide education through mobile phones."

But Botha cautions that not all observers agree with the premise of leapfrogging. "Leapfrogging assumes that we all have the same goals," she says. "Africa has actually developed on a very separate path and has come into the information age from a mobile-centric point of view rather than a PC point of view."

CASCIO AGREES that the perception that leapfrogging is all about the developing world catching up with the developed world misses the point that developing world users of these new technologies are doing so on their own terms and with their own goals. "This is an opportunity to develop a 21st-century lifestyle that is intrinsically their own," he says. "It's not that China and India are becoming more like the West; it's that these nations are developing economically advanced societies that are both technologically diverse and powerful – and still uniquely theirs."

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LEAPFROGGING – where developing nations accelerate development by skipping inferior, less-efficient or more expensive technologies and industries and move directly to more advanced ones – is a reality that businesses operating in these locations must embrace. *Naphthenics Magazine* spoke to Gunnar Stang, Director of Business Development at Nynas Naphthenics, for his take on the phenomenon.

HOW IS THE LEAPFROGGING PHENOMENON AFFECTING GLOBAL BUSINESSES LIKE NYNAS?

What's important in this rapidly changing world is that companies need to be able to adapt to local requirements and culture while still maintaining the values, concepts and identity of a global company. An ear to the ground and the flexibility to adopt new solutions to old problems are required by any business in order to be successful.

When it comes to specialty oil applications, we see an ever-increasing global demand. It's a fast-paced development and the highly solvent specialty oil that binds, insulates and protects is definitely sought after – perhaps even more so than strictly as a source of energy.

With local offices staffed with local experts, Nynas is well positioned to adapt to these new and developing needs. A solution that may have worked for decades in the industrialised world might not be the optimal solution for a specific local market.

Regarding technical support in all regions Nynas believes that in future, development of more tailor-made products at the local level is possible and might be needed. As a consequence, the use of local feedstock and developed partnerships with local producers are potential future scenarios.

Finally, it is of utmost importance to have a management team that reflects the global market. It should be a mix of nationalities, backgrounds and genders. Diversity is without a doubt a prerequisite for a global company.

SOME OF THE KEY REQUIREMENTS TO ADHERE TO INCLUDE:

- Application knowledge – knowing the local needs
- Market presence – a close and trusting relationship with clients
- Technical flexibility – global strength and local adaptation
- Efficient supply – no matter where, supply excellence is imperative.