

**Digital Frontiers Seminar:
“The Power of Self-solving in the
Singapore Digital Village:
Sharing Economy as a Case Study”**

Friday, 18 September 2015

Conference Room, Level 1, Oei Tiong Ham Building

Microcosms of a Digital Village

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Niiike, Honshu, Japan

“Buraku” – a small rural community consisting of households grouped into a community.

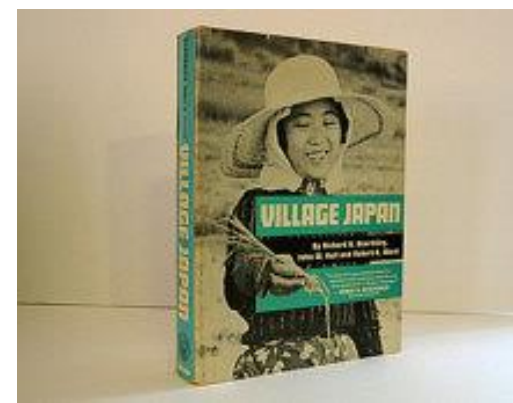
Its government is largely unofficial, and the borders of its land are only hazily defined; but it is a **clearly defined social community**. Its inhabitants have a **strong sense of group identity**.

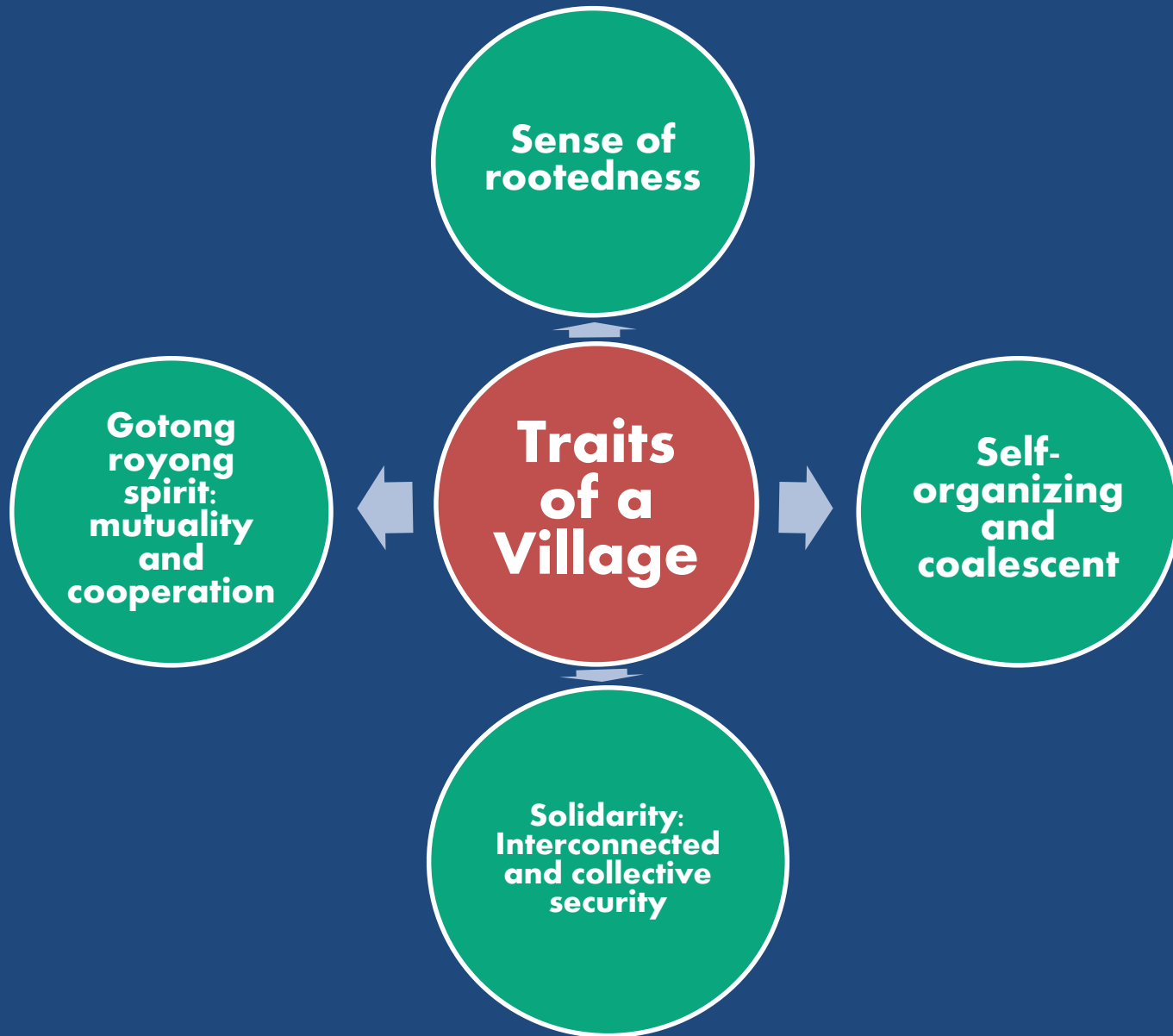
Survival depends upon squeezing a living from an exceedingly small portion of land.. Each person remains intimately bound to his household...

The Niiike household is also **dependent on the community**. Resources are **maintained and operated jointly and co-operatively** over a wide area beyond the buraku.

Two distinct systems of authority outside his family circle – immediate and more distant neighbours, and the external government.

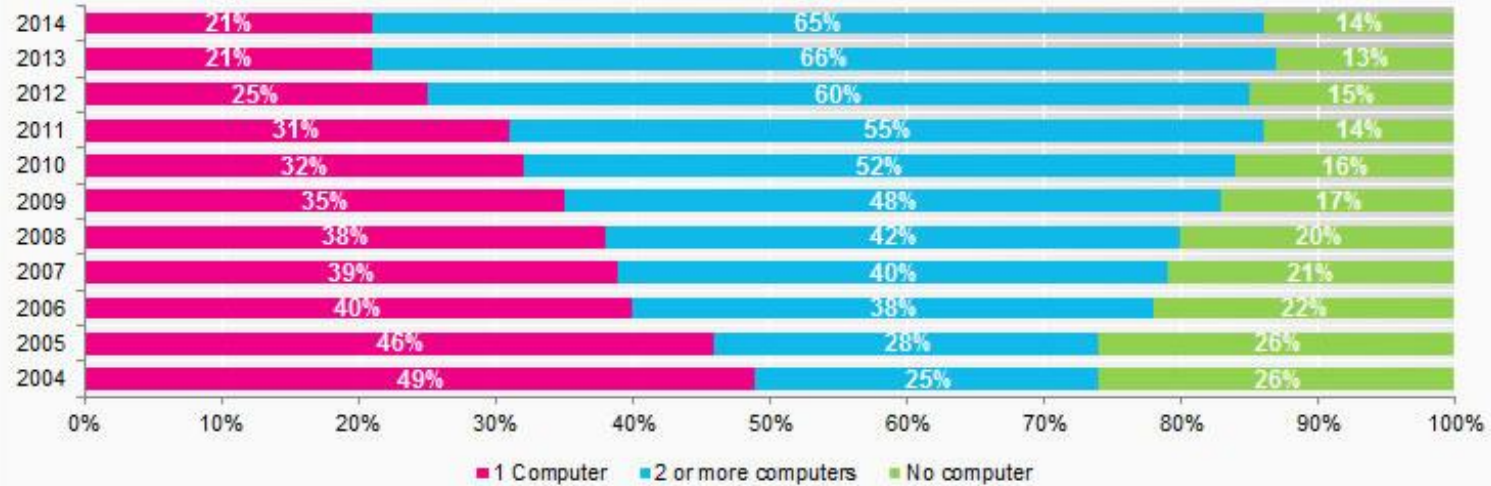
- Beardsley, Hall & Ward, 1959



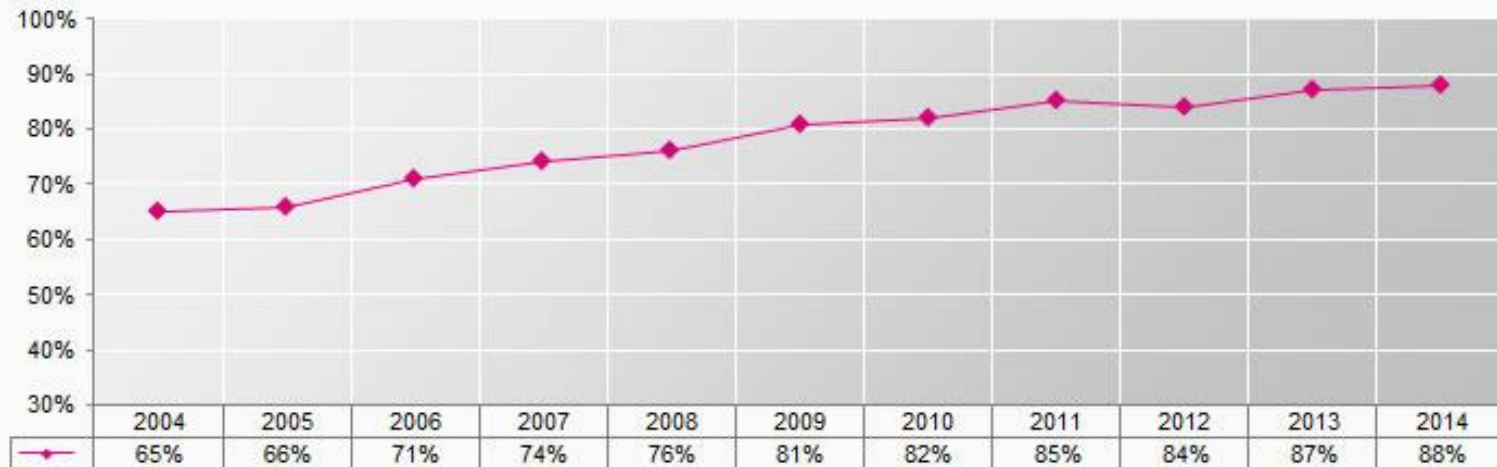


Connecting everyone

Access to a Computer at Home, 2004 - 2014



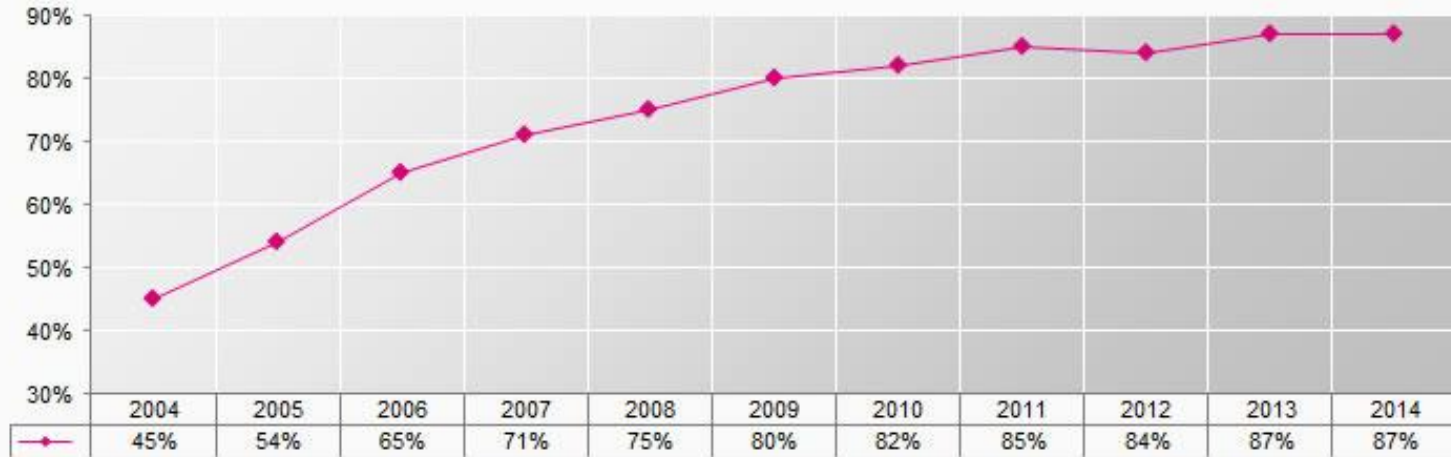
Household Access to Internet, 2004 - 2014



Base: Resident households in Singapore.
Source: IDA's Annual Surveys on Infocomm Usage in Households and by Individuals.

Connecting everyone everywhere

Household Access to Broadband, 2004 - 2014

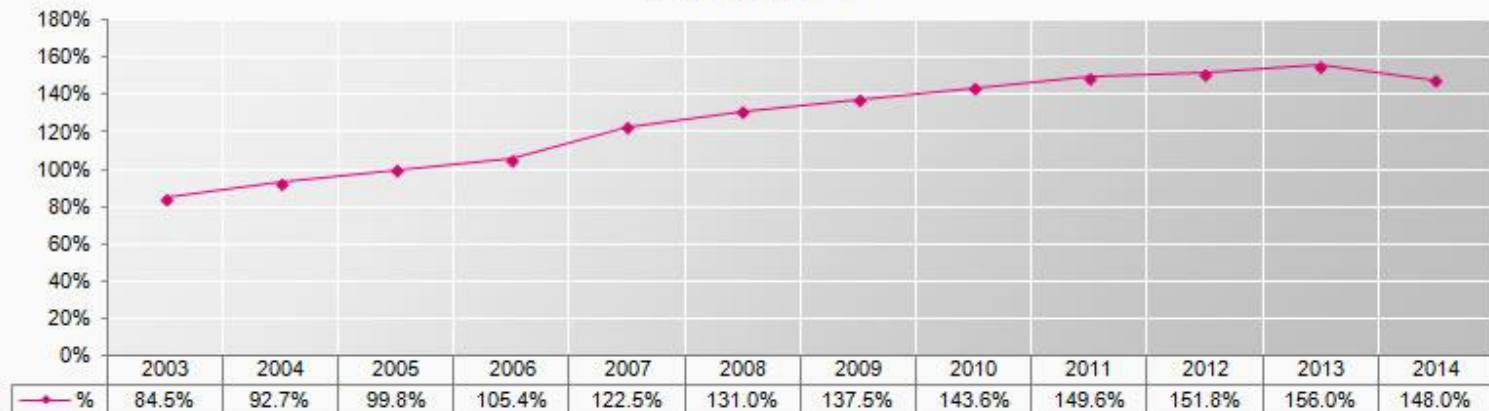


Base: Resident households in Singapore.

Source: IDA's Annual Surveys on Infocomm Usage in Households and by Individuals.

Mobile Phone Penetration Rate
2003-2014, Annual

Penetration Rate



Source: IDA POI.

Note: "MobilePhone Penetration" is computed using the total number of mobile subscriptions divided by the total population.

Singapore as a Smart Nation

The screenshot shows a web browser window displaying the Singapore Prime Minister's Office website. The browser's address bar shows the URL www.pmo.gov.sg/smartnation. The page features the Prime Minister's Office logo and the Singapore Government logo with the tagline "Integrity · Service · Excellence". A navigation menu includes links for Home, About PMO, About Government, Media Centre, Photos, and National Day Awards. The main content area is titled "Smart Nation" and includes a video player showing a night view of Singapore's skyline with the text "Smart Nation SINGAPORE Many Smart Ideas · One Smart Nation". Below the video, there are four paragraphs of text discussing the impact of ICT, the Smart Nation Programme's goals, the whole-of-nation journey, and the infrastructure being put in place. On the right side, there is a "Connect with Us" section with social media icons for Facebook, Twitter, YouTube, and Email, and a video player titled "1/12 - Smart Nation...". At the bottom right, there is a section for the "SMART NATION PROGRAMME OFFICE" with contact information and a "Press Releases" section.

Smart Nation | Prime Minis... x

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Smart Nation
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The rapid developments in infocomm technology (ICT) will have a profound impact on the way we live, work and play.

The Smart Nation Programme seeks to harness ICT, networks and data to support better living, create more opportunities, and to support stronger communities.

This is a whole-of-nation journey Singapore is embarking on. To succeed, we need people, businesses and Government to work together because ultimately, citizens are at the heart of our Smart Nation vision, and not technology.

We are putting in place the infrastructure, policies, ecosystem and capabilities to enable a Smart Nation. We are also encouraging a culture of experimentation and building, and working with citizens and companies to co-create solutions.

These could range from innovations impacting how we travel, where we live, our daily transactions, and how we support the lifelong needs of our citizens. Who knows? Some of these innovations may also address challenges faced by many cities and countries!

Connect with Us

1/12 - Smart Nation...

SMART NATION PROGRAMME OFFICE

The Smart Nation Programme is coordinated by the Smart Nation Programme Office in the Prime Minister's Office, supported by IDA and other government agencies.

For enquiries on the Smart Nation Programme, please write to smartnation@snpo.gov.sg.

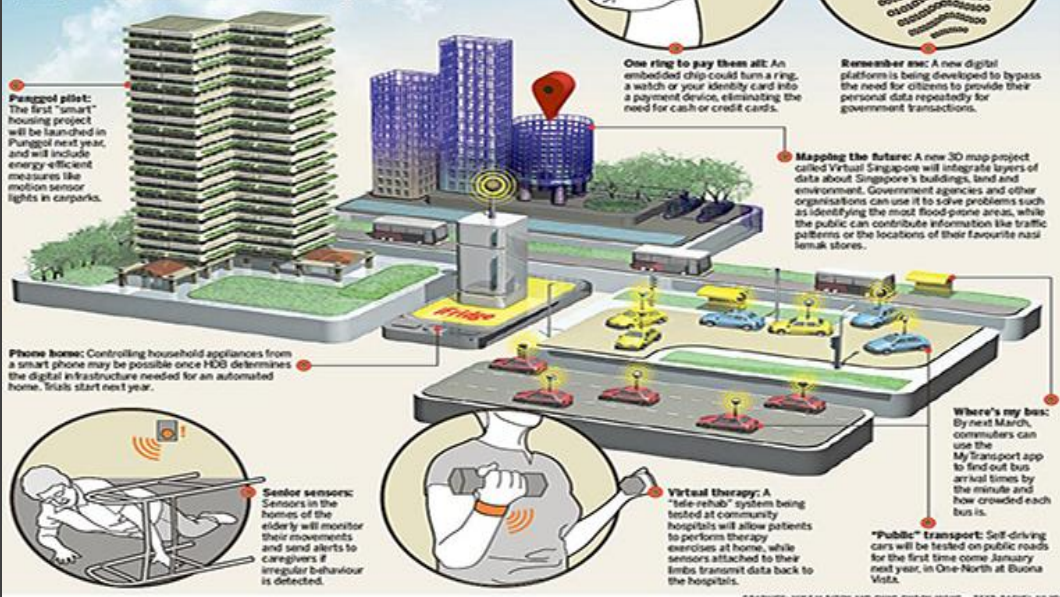
Press Releases

Smart Defence Vision

EN 11:14 16/09/2015

Smart Singapore

Singapore is expanding its use of technology to entrench its position as a leading global city and improve Singaporeans' quality of life. Here are some upcoming initiatives:



“.. Networks of sensors and smart devices enable us to live sustainably and comfortably. We should see it in our communities where technology will enable more people to connect to one another more easily and intensely.”

Three essential ingredients: A world class infrastructure, a capability layer and a global ecosystem.

Smart Nation vision will also result in “shift in tone” in Singapore’s society – from being reliant on the government to solve all problems, to one where citizens are able to make use of the information available and come up with solutions for real-life problems.



Digital Village a Smart Nation Plus

Smart Nation focuses:

- Mobility - increasing efficiency of the transport system
- Daily transactions - government services through digital platforms, integrated patient records platforms, smart queues
- Home – smart planning, smart estate and smart living
- Lifelong needs – tele-medicine and rehabilitation for seniors
- Getting people ready for the Digital Age
- E.g.: HDB's Smart HDB Town Framework and Smart Elderly Monitoring and Alert System

Digital Village as Smart Nation+:

- Leverages Smart Nation initiatives – competency building (IDA/Singapore Workforce Agency/MOE partnership, Lab on Wheels, Robotics and Maker Academy)
- Ground-up determination of problems and solutions
- Technology is an enabler BUT how people's utilization of *technology transforms their relationships with one another, and transforms relationship between them and the government*

Microcosms of the Digital Village

- Sharing underused assets or services, for free or for a fee, directly from individuals

Sharing economy

- Small, close knit community that is based on the principle of mutuality

Moral economy

Multi-faceted

Access economy

- Sharing from the goodness of one's heart



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Core Organizing Principles & Implications

Problem-solving as the Basic Organizing Principle

Ground-up Participation

Self-sustaining and Self-correcting

Egalitarianism in Participation

Interconnectedness and Collaboration among “Mini Villages”

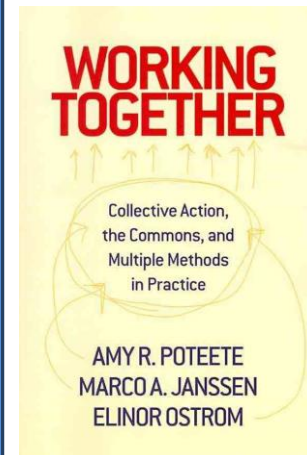
“What drives connections among people?”, “How would the digital village organize itself?”, “What are the implications of the digital village?”, “How can society and government leverage on the global village?”

Core organising principles and characteristics, and implications for society, economy and politics

A “village plus” that is constantly evolving, self-generating and self-regenerating in quick response to the changing environment

Mitigating the tragedy of the Commons

1. **Clearly defined boundaries to exclude un-entitled parties**
2. **Rules on appropriating and providing common resources adapted to local conditions**
3. **Collective-choice arrangements that allow most resource appropriators to participate in the decision-making process**
4. **Effective monitoring and a scale of graduated sanctions for resource appropriators who violate community rules**
5. **Cheap and accessible conflict resolution mechanisms**
6. **Higher-level authorities to recognize community's self-determination**



RULES, GAMES, & COMMON-POOL RESOURCES

Elinor Ostrom, Roy Gardner, & James Walker

MICHIGAN

Singapore as a Digital Village

- **Transforms Society**
 - Strengthens social capital
 - Builds societal resilience in the long term
 - Divide between digitally connected and digitally unconnected – will become moot due to IT and Smart Nation initiatives? (e.g. 10 million Digital Inclusion Fund)
- **Technology** – transparency and web permanence enhance trust and reputation capital
- **Taking Ownership** of problems and solution generation (citizens) → instant feedback removes “command and control” and the middleman
- **Three-tiered Regulation** – community, moderators and state (e.g. AirBnB)

Thank you.

“Global Village” versus Digital Village

Global Village (McLuhan)

- Media as an electronic nervous system that contracts the globe into a village through time-space compression
- Enables instant information-sharing and eradicates barriers to real-time communicative activities
- Formation of online communities built around common interests and concerns

Digital Village

- “What drives connections among people?”, “How would the digital village organize itself?”, “What are the implications of the digital village?”, “How can society and government leverage on the global village?”
- Core organising principles and characteristics, and implications for society, economy and politics
- A “village plus” that is constantly evolving, self-generating and self-regenerating in quick response to the changing environment

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