



TOTVS

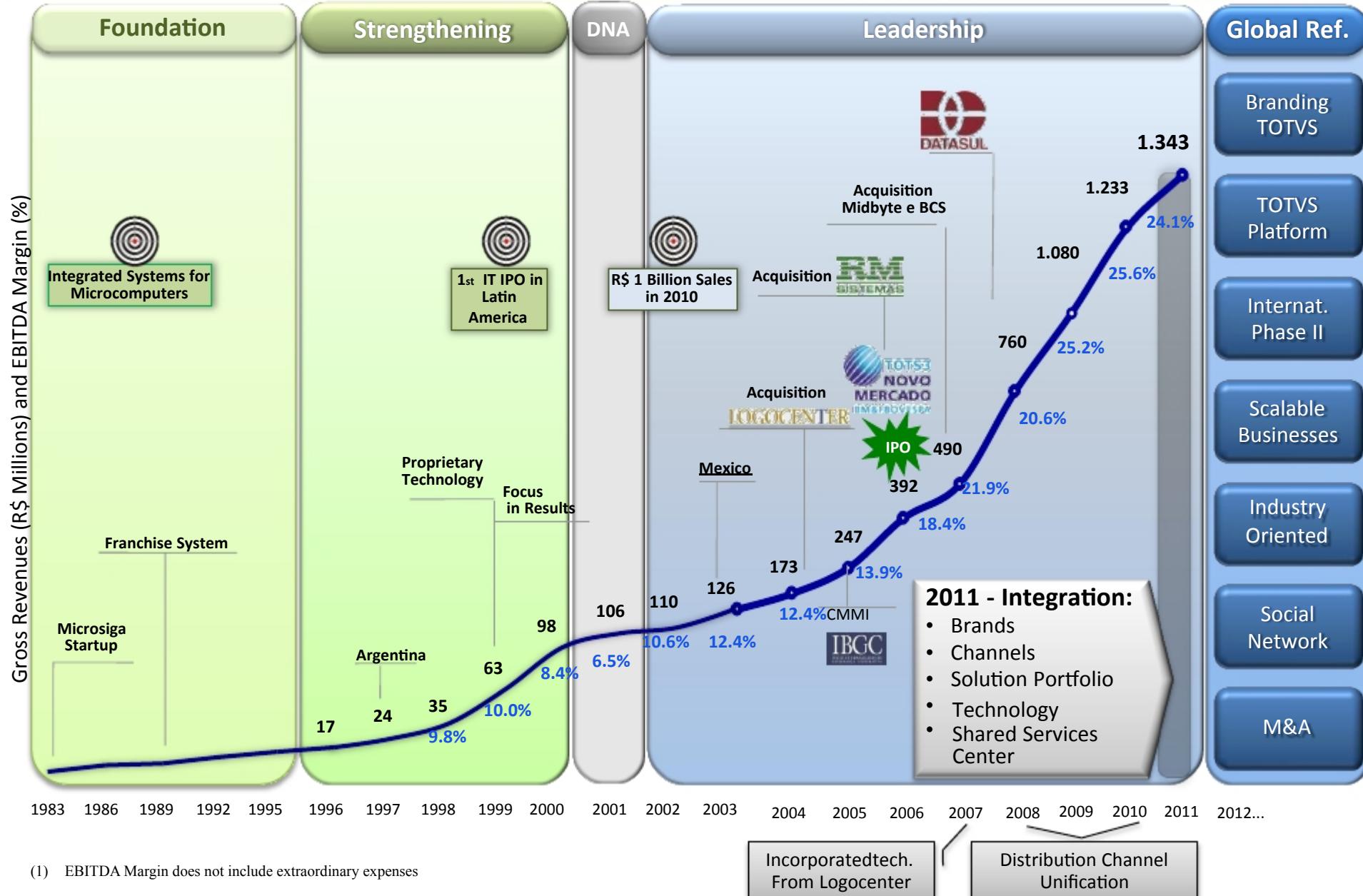
Ginga and Digital TV Business

TQTV



TOTVS

Company History

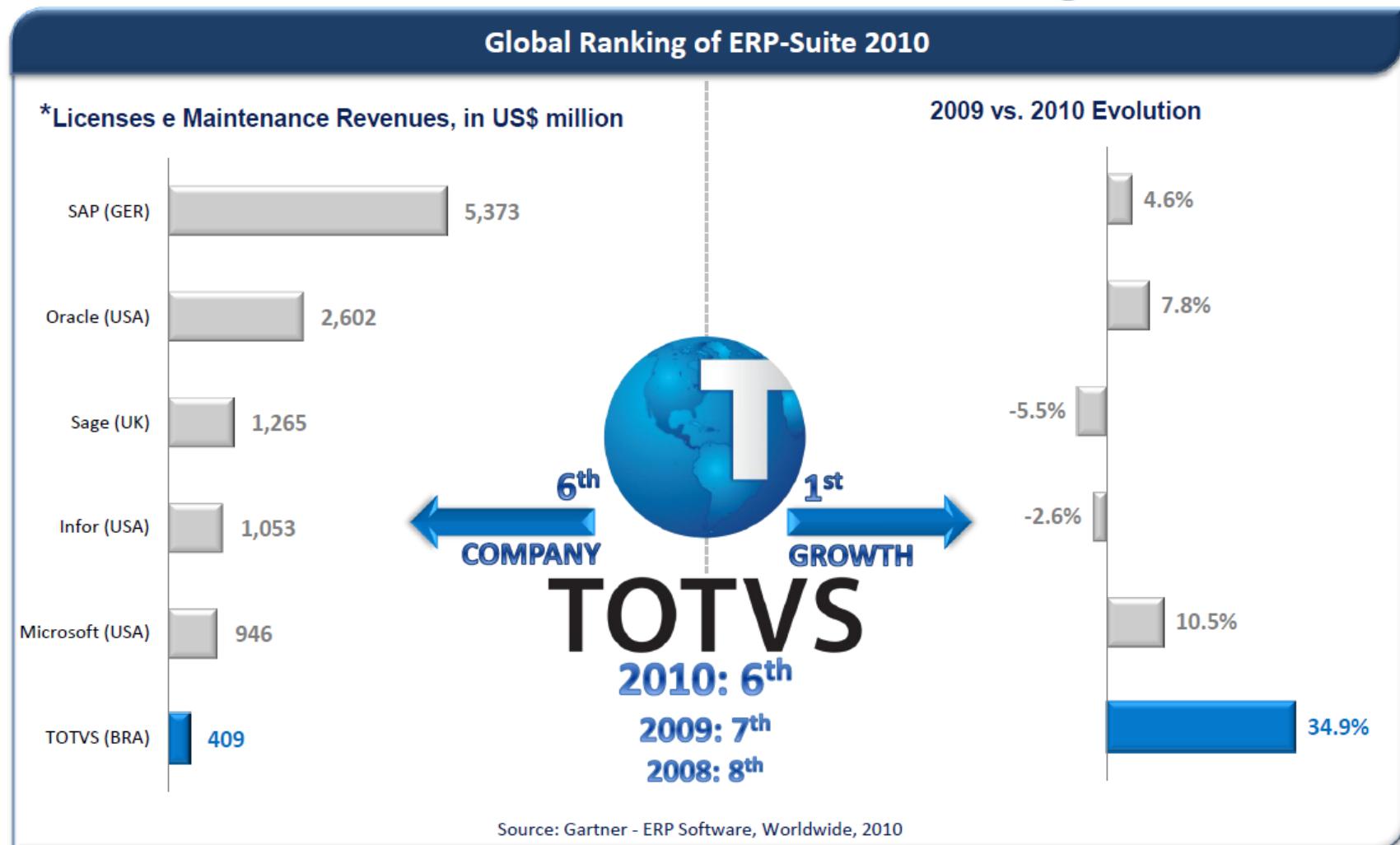




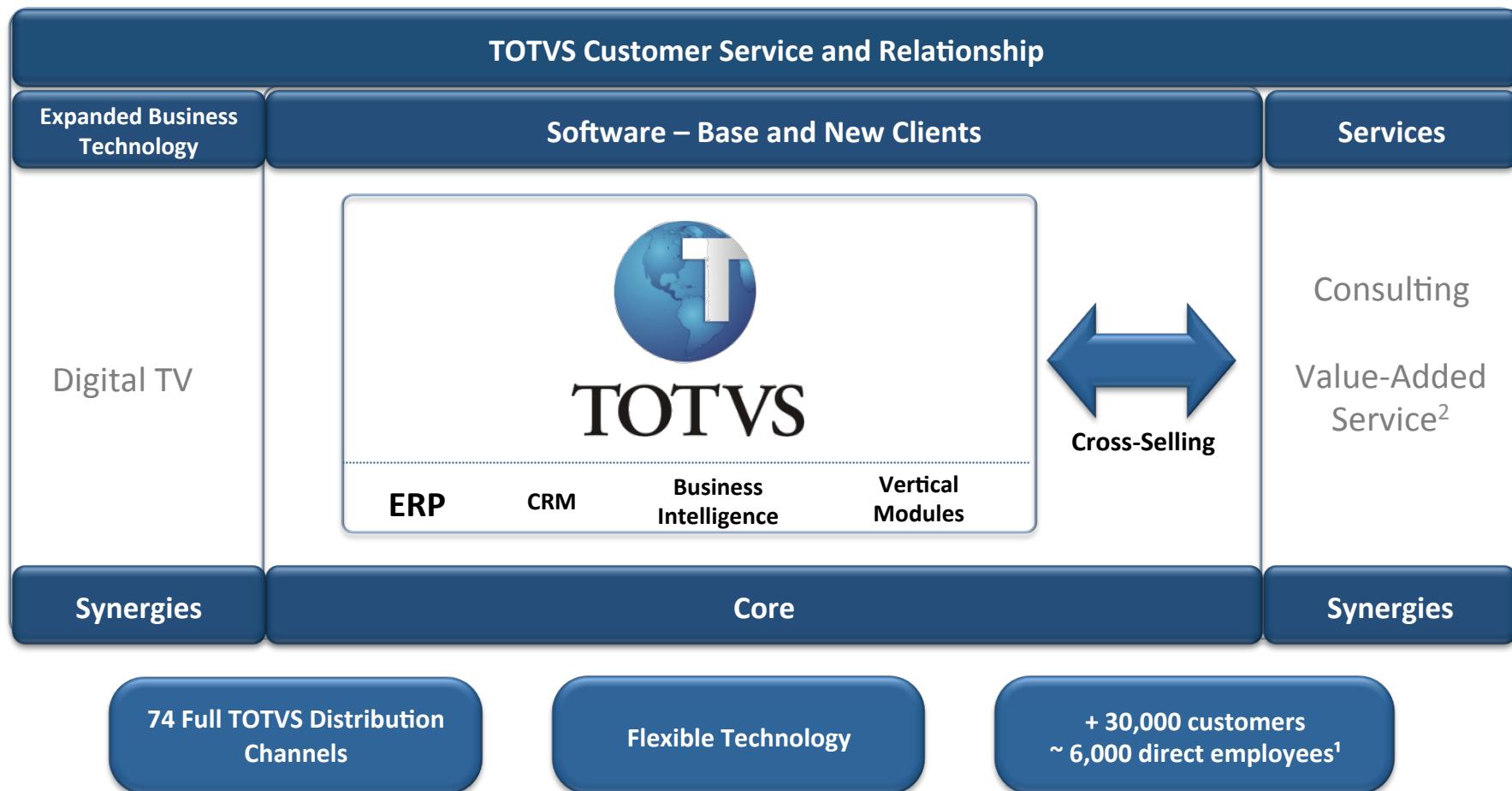
TOTVS

TOTVS World Relevance

6th worldwide in Revenue* and 1st in growth

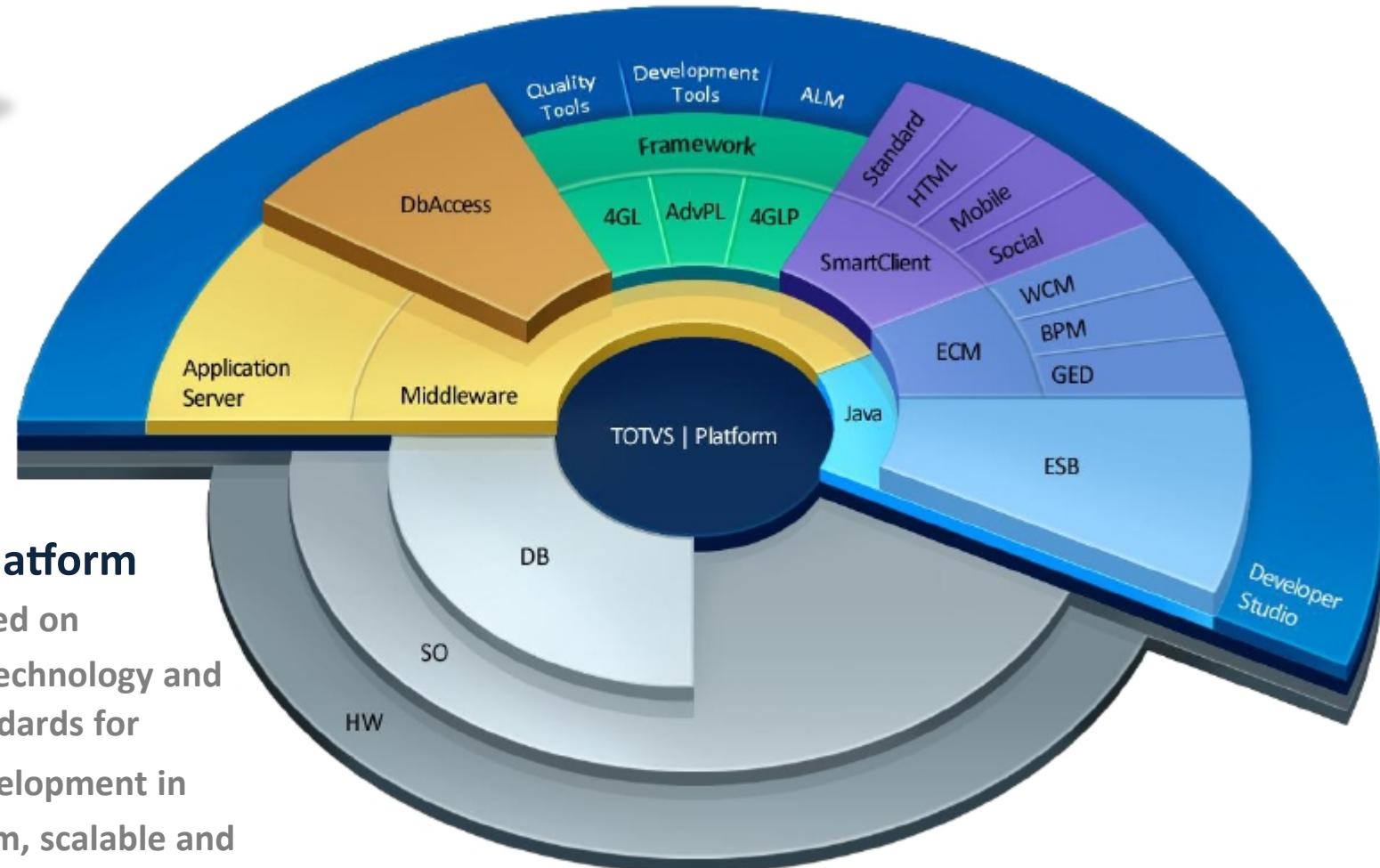


Source: TOTVS Institutional
Presentation, Feb/Mar 2012



(1) Does not include close to 4,000 employees of our franchises

(2) Includes Infrastructure, HR BPO, Education and Service Desk





TOTVS

TOTVS Digital TV Unit



- Created in 2007 - 70 employees mainly Engineers
- Part of TOTVS S/A group.
- TQTVD is totally dedicated to Digital TV products and services
- Flagship product: AstroTV, an 100% compliant implementation of the ISDB-T_B Ginga middleware standard
- AstroTV is the 1st complete Ginga implementation on the market. It supports both Ginga-J (JAVA) and Ginga NCL (NCL/LUA)
- Vision: transform TV into the ultimate entertainment experience
- Mission: foster interactive TV experience everywhere, anywhere

Chipset/ODMs



Broadcasters



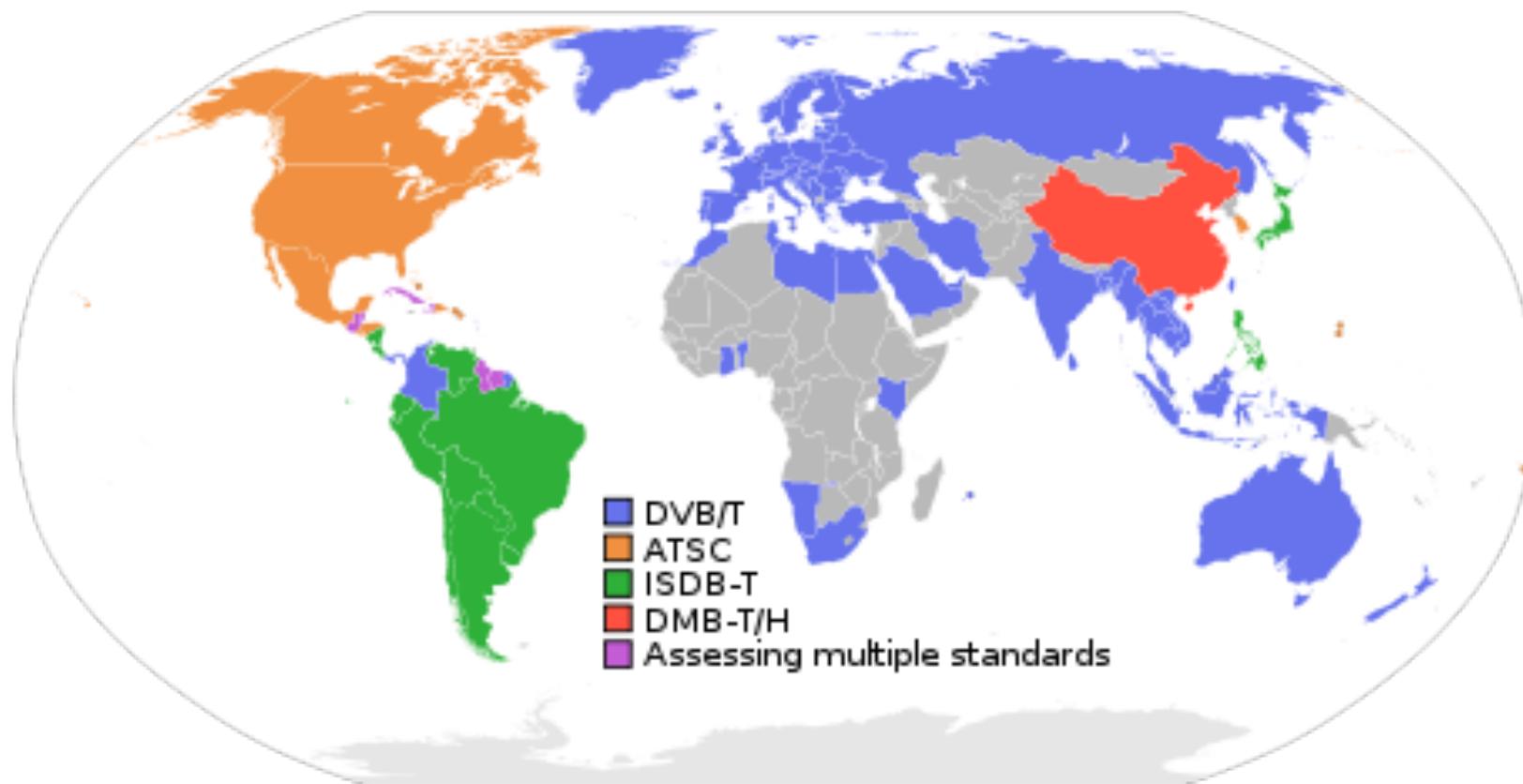
Strategic Alliances





TOTVS

DTV in Brazil and Latin America





Países da América do Sul e Central
que já adotaram o padrão ISDB-Tb



Population ISDB-Tb
Latam: 354M ⁽²⁾

11 countries in LATAM +
Phillipines ⁽¹⁾

(1) <http://www.dtv.org.br>

(2) <http://pt.wikipedia.org/wiki/ISDB-TB>

Government changes PPB for televisions to include Ginga interactive software

24/02/2012

Brasilia (February 24) - From 2013, the Brazilian interactivity software Ginga must be installed in 75% of televisions with liquid crystal display manufactured in the Manaus Free Zone. Companies that want to start production this year, between July 1 and December 31, may deduct such production from the quota in 2013. The requirement for inclusion of the software increases to 90% of production, from 2014, according to the Ordinance published in the Official Gazette on Monday by the Ministries of Development, Industry and Foreign Trade (MDIC) and of Science, Technology and Innovation (MCTI).

Ministerial Ordinance No. 140 amends the Basic Productive Process (PPB) that already exists for televisions with liquid crystal display and sets the schedule to be followed by manufacturers for inclusion of Ginga in devices. It is from the PPB that the government sets the domestic content that a company must meet to be eligible for tax benefits granted to companies established in the Industrial Pole of Manaus and to manufacturers of computer items installed anywhere in the country.

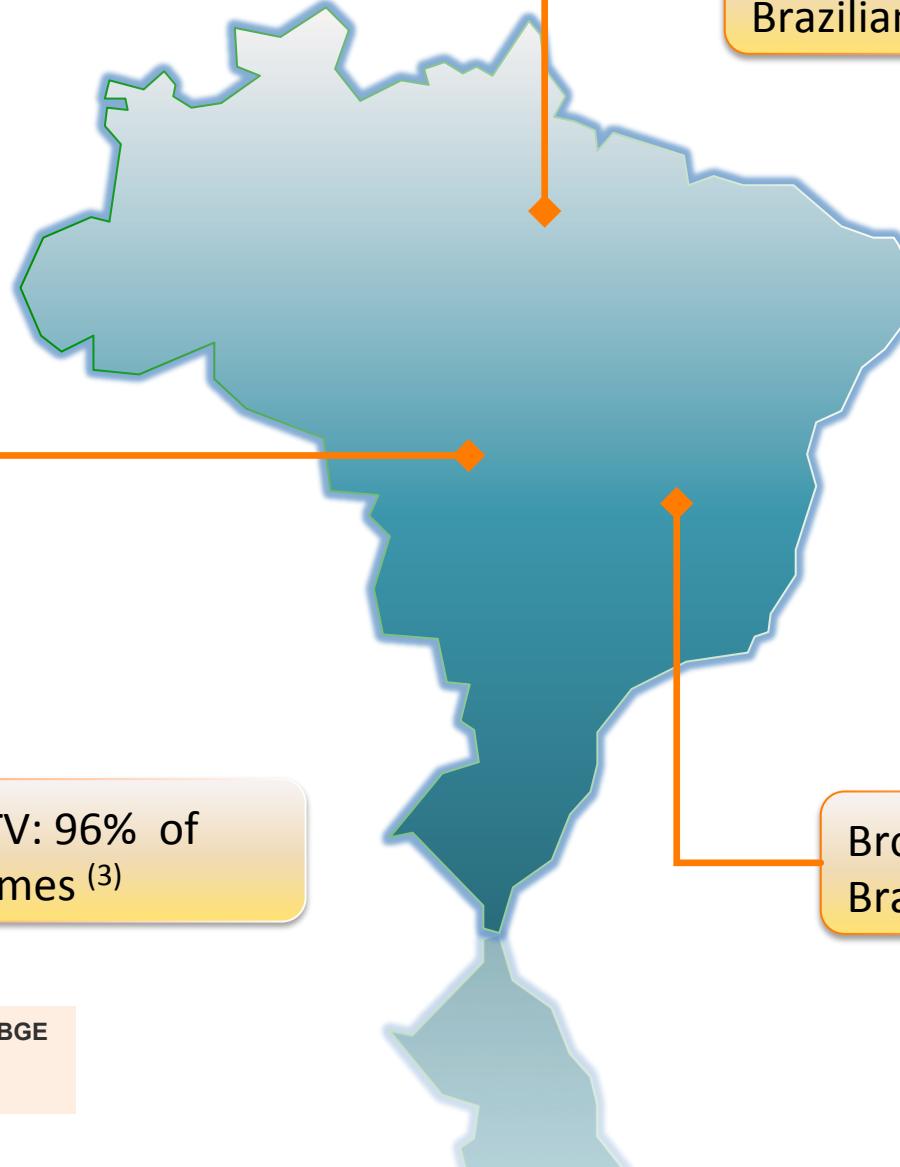
About Ginga

In 2004, the federal government started to promote the development of the Brazilian System of Digital Terrestrial Television (SBTVD-T), which has interactivity as one of its principles. Ginga, software developed by a group of researchers from Brazilian institutions, allows for the operation of interactive applications on TVs and for open source, which does not require royalty payments, and may be adopted by other countries. In Argentina, for example, Lifia (Federal University of La Plata) is providing the software for the government.

Participating in the development of Ginga were researchers at the University of Sao Paulo, Federal University of Pernambuco, Federal University of Paraiba, National Institute of Telecommunications (Inatel), Federal University of Minas Gerais, Coppe-UFRJ and PUC-Rio. The group gave scope to the software specification, now an international standard validated by ITU (International Telecommunication Union) and regulated at the national level by a set of standards of the Brazilian Association of Technical Standards (ABNT).

For the Brazilian government, the implementation of Ginga in digital TV will encourage the interactive software industry in the country and will be an opportunity to connect public policies to support innovation and development of production with value added based on local content.

<http://www.mdic.gov.br//portaldmdic/sitio/interna/noticia.php?area=2¬icia=11331>



- (1) Computer Industry Almanac / IBGE
- (2) Telecom/ IBGE
- (3) WWW.eletros.gov.br

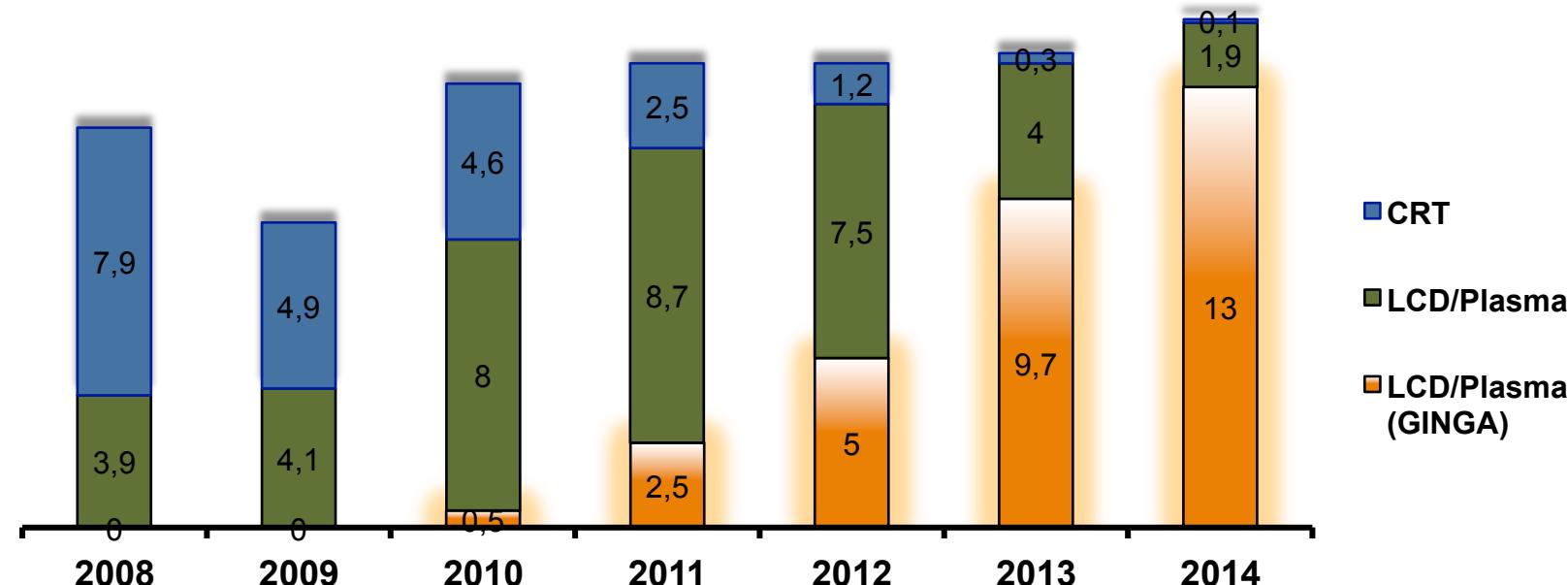
TV Market

Number of TVs

Current estimate is more than 100 million TVs with a coverage of about 65 million households.

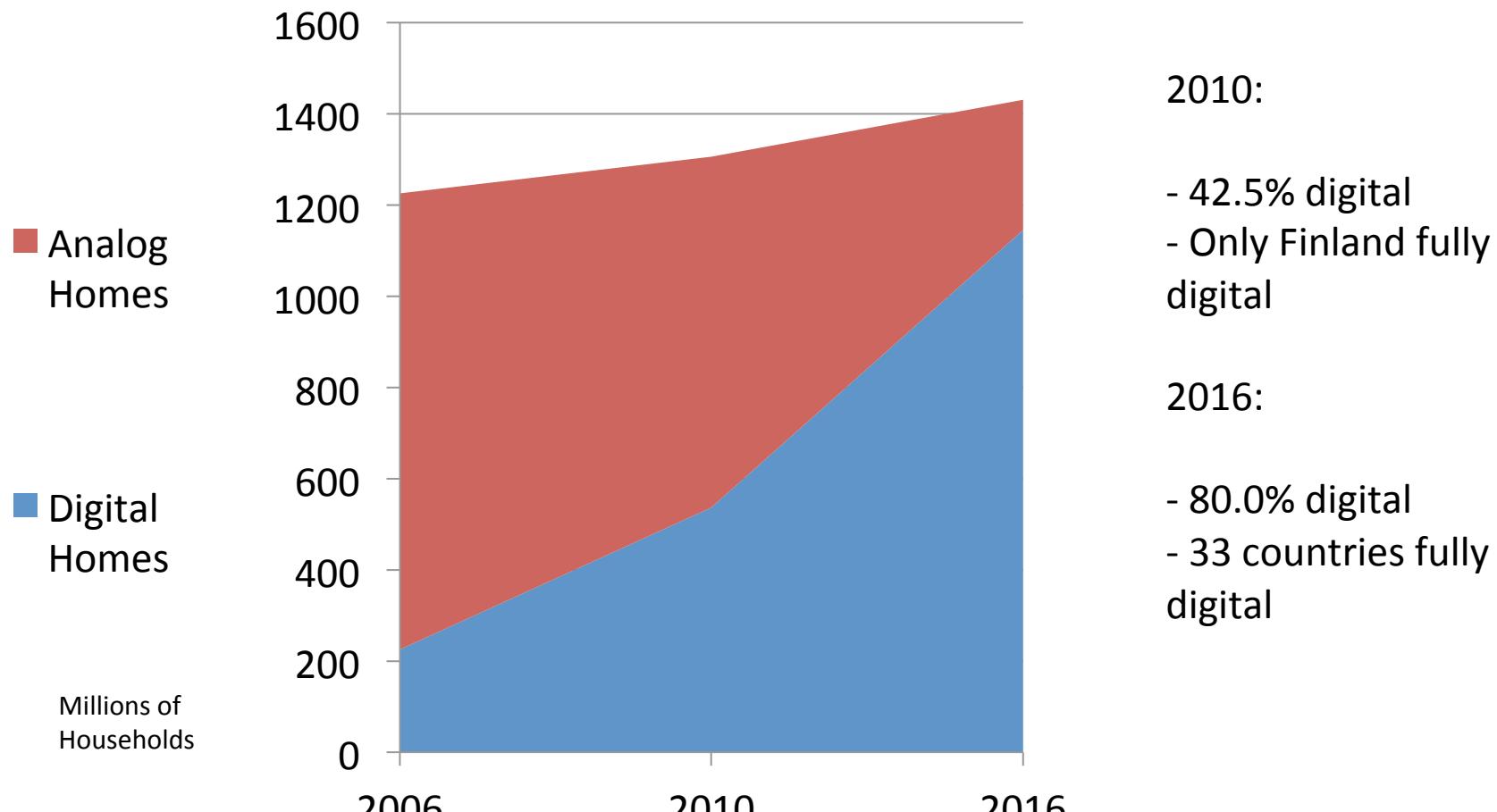
Manufacturers sold 12 Million TVs in 2011 (10 million TVs are LCDs / Plasma).

From 2012 to 2014 numbers will grow in preparation for World Cup 2014 and later for 2016 Rio Olympic Games.

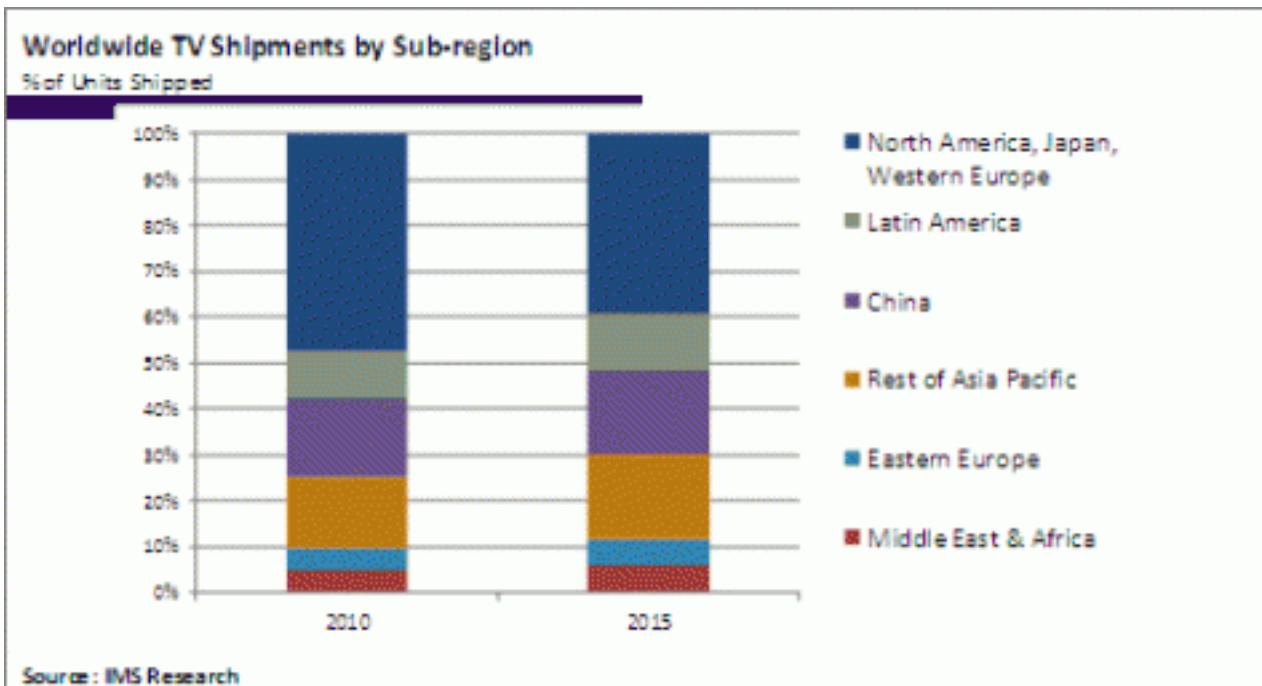


Source: 2008, 2009, 2010, 2011 and 2012 (SUFRAMA) - in million of units

The World Goes Digital



Source: Digital TV Research Ltd., June 2011



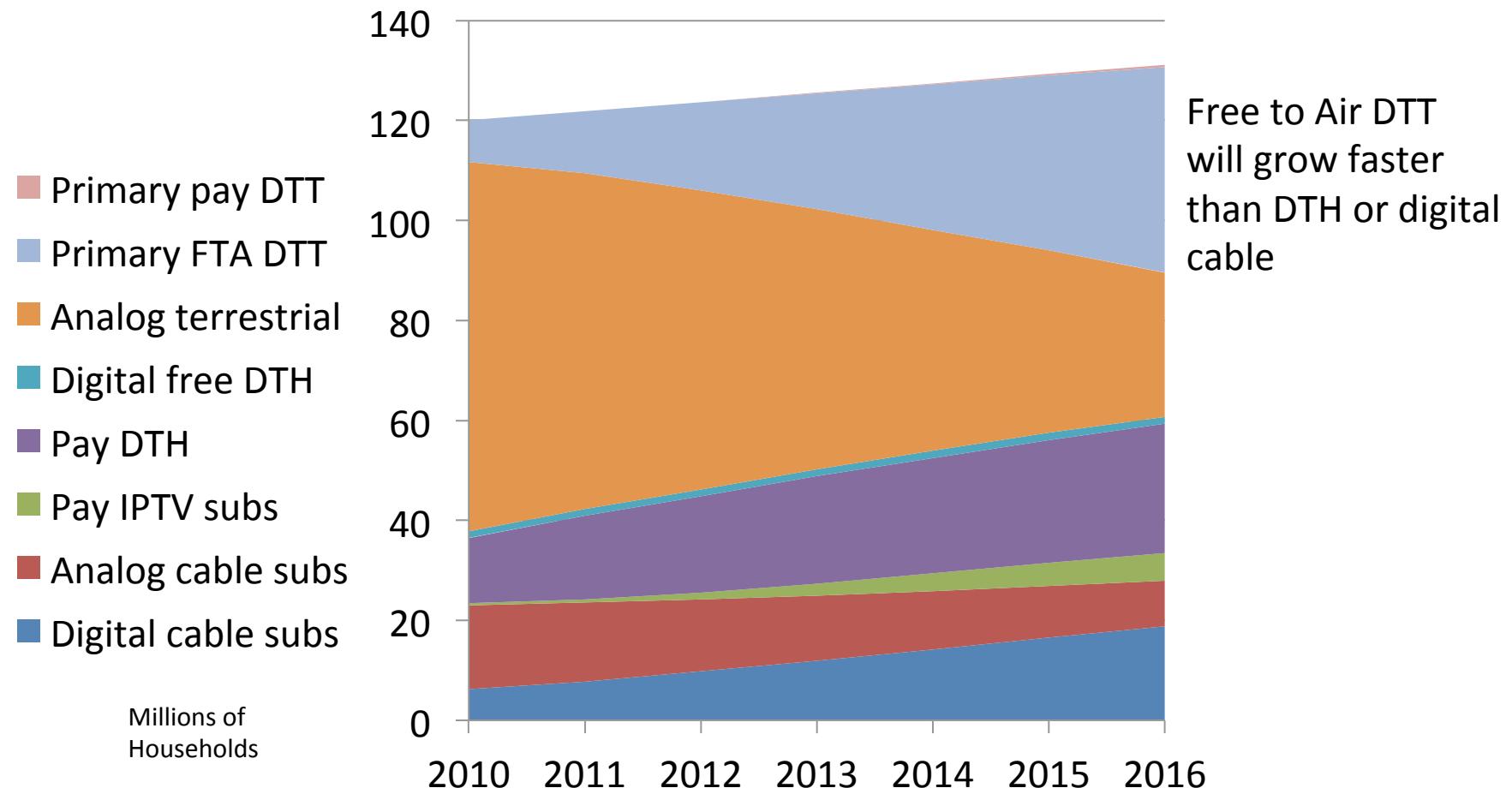
In the next five years,
TV set shipments will:

grow 2.2% per year
in Latin America, Eastern
Europe,
MEA & Asia Pacific

decline in Japan & Western
Europe

be flat in North America

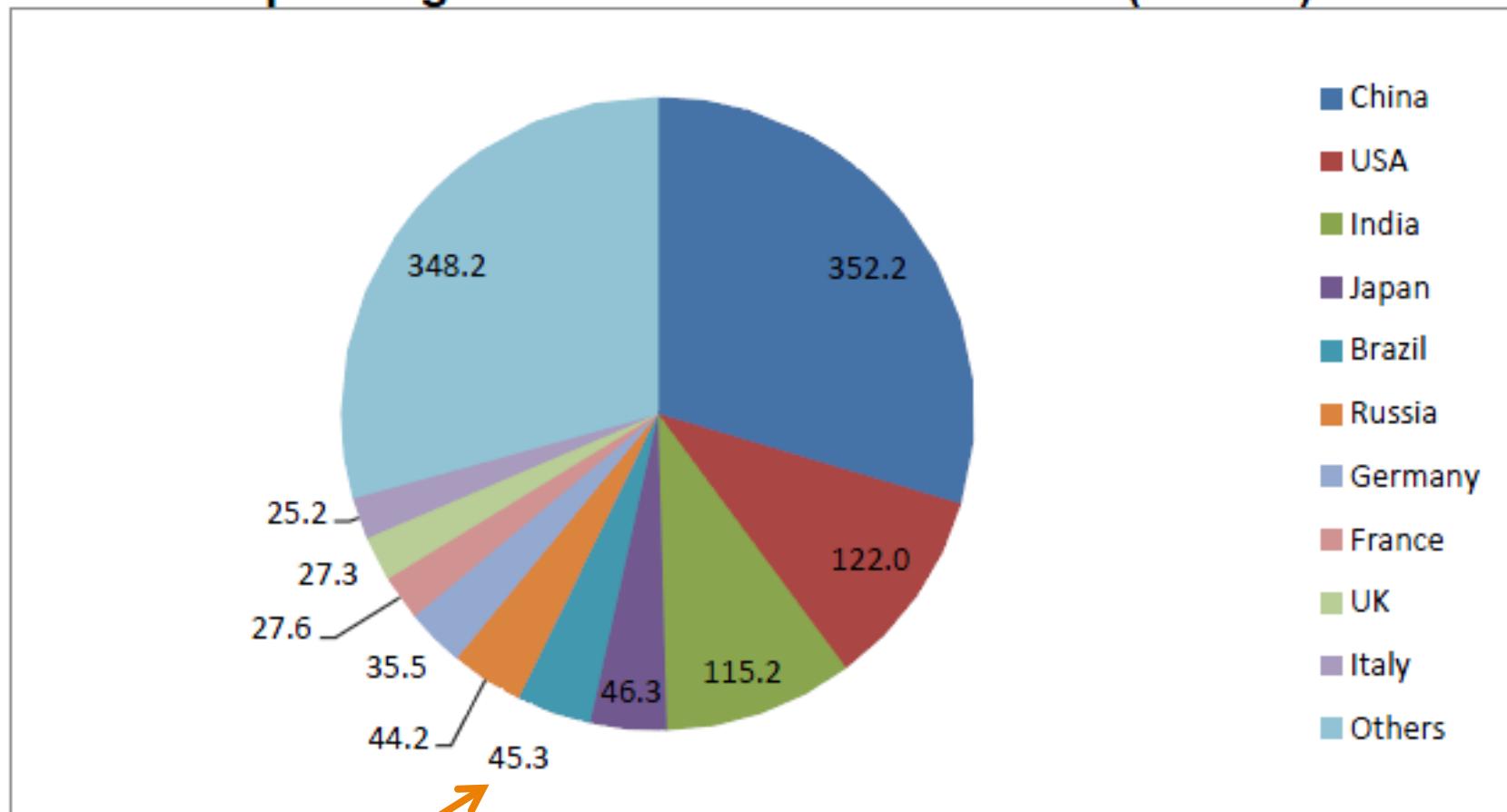
Source: IMS Research, August 2011



Source: Digital TV Research Ltd., June 2011



Top 10 digital TV countries at end-2016 (million)



Source: Digital TV Research Ltd

Brazil



TOTVS

Ginga Deployments





TOTVS

Deployments - 2010



LG

Life's Good

TV Phone GM600



Onde Encontrar ▾

VISÃO GERAL

FUNCIONALIDADES

GALERIA

ESPECIFICAÇÕES

REVIEW

SUporte



BOOKMARK

Pra ligar e ficar
ligado

LG GM600

Entretenimento e informação que você leva no bolso

Com LG TV Phone GM600 você grava e captura conteúdo da TV, assiste a vídeos com a alta qualidade DivX, fotografa com a câmera de 3.2MP e ouve músicas com a tecnologia Dolby Mobile, que gera um som mais puro e cristalino. Tudo isso em uma interface 3D interativa com online Widgets e um display Touchscreen de 3".

[Tudo o que você precisa saber sobre Aparelhos](#)



LG - 4 TV set models



47LH45ED

Onde Encontrar ▾



Toda a
interatividade da
TV Digital

LG 47LH45ED

DTVi 47": Acesse conteúdos dos seus programas favoritos. Painel IPS.

A LH45 conta com a exclusiva tecnologia DTVi, com ela você poderá acessar conteúdos disponibilizados pelas emissoras como sinopses, informações das programação, dados sobre jogos, e muito mais. Você ainda poderá assistir a seus programas favoritos na hora que quiser. O gravador instantâneo em alta definição permite salvar com um toque a programação ao vivo da sua TV digital, além de possibilitar a pausa da programação sempre que você desejar. Grava até 45 horas em analógico e 13 horas em HD. O USB plus permite que você leve para a sua TV tudo o que mais gosta, fotos, músicas e filmes



SONY - full product line





sony style
Brasil

Televendas 4003 7669 capitais

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[BRAVIA LED Full HD com conversor integrado](#)

[BRAVIA LCD FULL HD com conversor integrado](#)

[Tela de 32"](#)

[Tela de 40" a 46"](#)

[Tela de 52" a 60"](#)

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[Cadastre-se e receba novidades](#)

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[Bravia LED Full HD 46 polegadas com conversor digital integrado KDL-46EX605](#)
de R\$ 4.699,00 por R\$ 3.999,00

Desfrute de imagens mais limpas e nítidas com a nova BRAVIA LED série EX605. Com conversor digital [mais detalhes](#)

 [comprar](#)

R\$ 3.999,00
em **10 x de R\$ 399,9** sem juros
[veja outras opções de parcelamento](#)

[compare modelos >](#)



[Bravia LCD 32 polegadas com Conversor Digital Integrado e Internet Video KDL-32EX305](#)



[Base monolítica para série NX705 - SU-40NX1](#)



[Televistor LED 3D 60" XBR-60LX905 com 2 óculos inclusos](#)



[Televistor LED 3D 52" XBR-52LX905 com 2 óculos inclusos](#)



[Bravia LCD Full HD 46 polegadas com Conversor digital integrado KDL-](#)

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[Bravia LCD 32 polegadas com Conversor Digital Integrado e Internet Video KDL-32EX305](#)



[Base monolítica para série NX705 - SU-40NX1](#)

PHILIPS - full product line

**PHILIPS**

sense and simplicity

Encontre a TV perfeita para você

Com toda facilidade usando nosso Guia de compra de TV. Iniciar o Guia de compra de TV.



Novo Comparar



Cinema 21:9 TV LCD
58" Full HD 1080p TV digital
58PFL9955D/78

Novo Comparar



Série 9000 TV LCD
Philips 40" Full HD 1080p TV digital
40PFL9605D/78

Novo Comparar



Série 8000 TV LCD
Philips 52" Full HD 1080p TV digital
52PFL8605D/78

Novo Comparar



Série 8000 TV LCD
Philips 40" Full HD 1080p TV digital
40PFL8605D/78

Novo Comparar



LED Série 6000 TV LCD
Philips 46" Full HD 1080p TV digital
46PFL6615D/78

Comparar



LED Série 6000 TV LCD
Philips 46" Full HD 1080p TV digital
46PFL6605D/78

Novo Comparar



LED Série 6000 TV LCD
Philips 40" Full HD 1080p TV digital
40PFL6615D/78

PANASONIC - 5 TV set models



Produtos e Soluções

TV e Áudio/Vídeo

· TV

- LCD TV Viera

- LED LCD TV Viera

- Plasma 3D TV Viera

- Plasma TV Viera

- Acessórios para TV

· Áudio e Vídeo

Câmeras e Filmadoras

Eletrodomésticos

Saúde e Beleza

Telefonia

Pilhas e Baterias

Lanternas

Acessórios

Soluções Corporativas

Soluções Industriais

LED LCD TV Viera

É tanta tecnologia que você vai se surpreender



► VIERA - TC-L42D20B

 Comparar

- Painéis IPS LED LCD
- Resolução Full HD
- 120Hz Motion Picture Pro
- Viera Cast
- Leitor para cartões SD (Fotos, Vídeos e Música)
- Intelligent Scene Controller
- AVCHD

► VIERA - TC-L37D20B

 Comparar

- Painéis IPS LED LCD
- Resolução Full HD
- 120Hz Motion Picture Pro
- Viera Cast
- Leitor para cartões SD (Fotos, Vídeos e Música)
- Intelligent Scene Controller
- AVCHD

SEMP TOSHIBA - WL800 line



SEMP TOSHIBA

TOSHIBA LED TV 55" FULL HD 3D LANÇAMENTO 55WL800i3D

CARACTERÍSTICAS

- Ultra Slim LED TV 55 Pol.(140 cm) (Diagonal Visual = 139 cm)
- Full HD 1080p - Resolução em pixel 1920x1080
- Clear Scan 480 - Cenas de ação e esportes com movimentos mais claros e precisos
- Tela WideScreen 16:9 formato cinema
- Progressive Scan
- 3D Full HD Ativo
- DTVi - Decodificador digital para recepção de TV aberta com suporte a interatividade
- SMART TV - Conecte a internet e acesse as redes sociais, vídeos e notícias
- DLNA - Acesse vídeos, fotos e músicas de aparelhos com suporte DLNA

CONEXÕES

- WiFi - Conexão wireless integrada
- 4 Entradas HDMI - Entrada de áudio e vídeo digital
- 1 Entrada Vídeo Componente HD - Alta Definição - 720p ou 1080i
- 2 Entradas áudio e vídeo (Entrada de Vídeo Composto)
- Entrada para PC
- Saída de áudio digital ótica
- Saída para fone de ouvido
- Porta LAN - para conexão de rede
- 2 entradas USB





From early 2010 to early 2012

- 3 Million Ginga TV Sets sold in Brazilian Market.
- Almost all main TV manufacturers have already launched.
- Most TV manufacturers use TOTVS AstroTV Product. Samsung has their own in house Ginga implementation.
- All 5 main terrestrial FTA broadcaster networks are transmitting Ginga applications on their live signal, in several state capitals (Sao Paulo, Rio, Brasilia, etc.) generally tied to prime time programs.



TOTVS

Innovative Solutions



TQTVD solution for Integrated and
Hybrid Broadcast & Broadband

A complete inclusive solution

- Is based on an up-to-date, open standard already embraced by global standard organizations such as ITU (see: ITU-T J.205 – Integrated Broadcast and Broadband).

- Includes an application store concept / model.

- Is prepared for on-demand video content distribution via broadband access to content providers or broadcasters' portals.





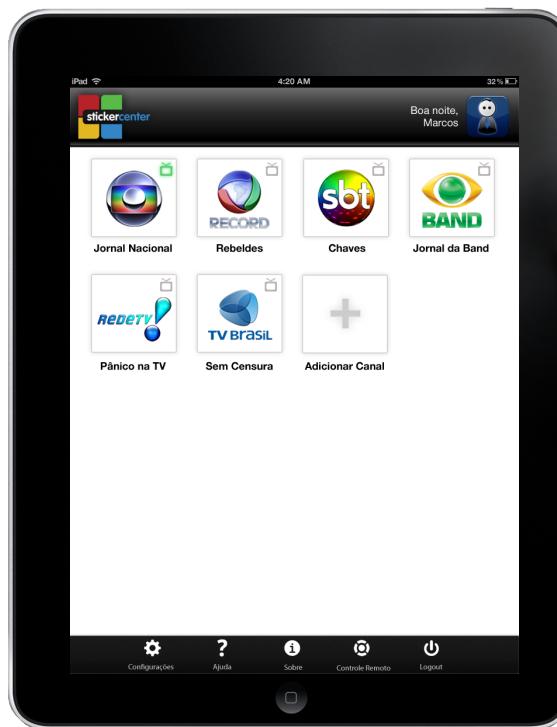
The behavior of many users today in front of the TV has changed:

Now it unifies the collective TV experience with the personal Internet experience

StickerCenter 2nd Screen shows how Ginga can be used to enable **synchronized** interactivity on the 2nd Screen.

It is compatible with IOS e Android and uses:

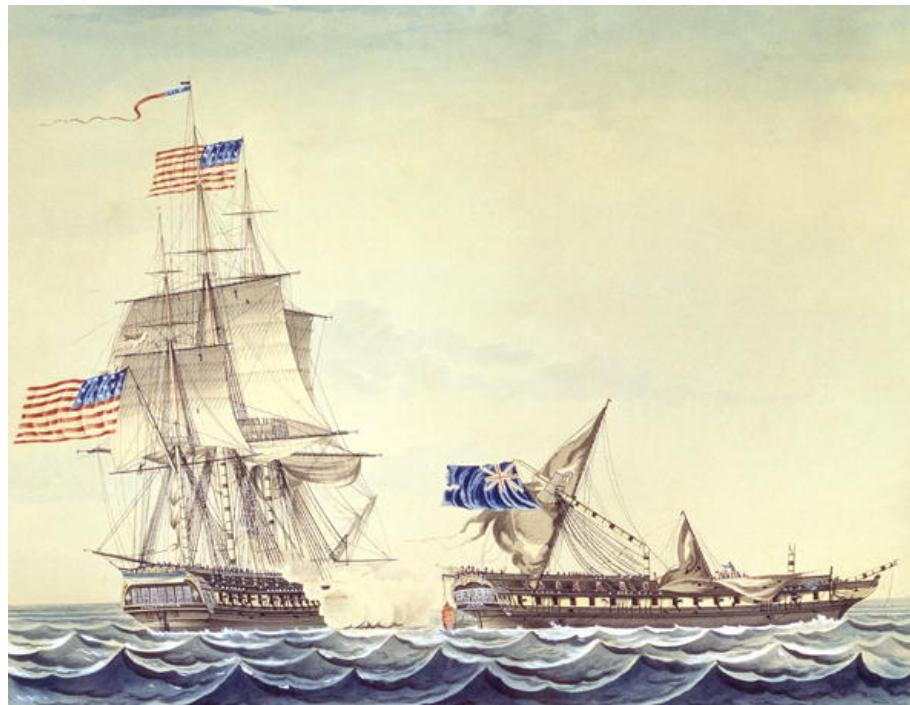
- Ginga – enabled TVs
- TV and devices connected in the same Wi-Fi network
- Seamless synchronization techniques



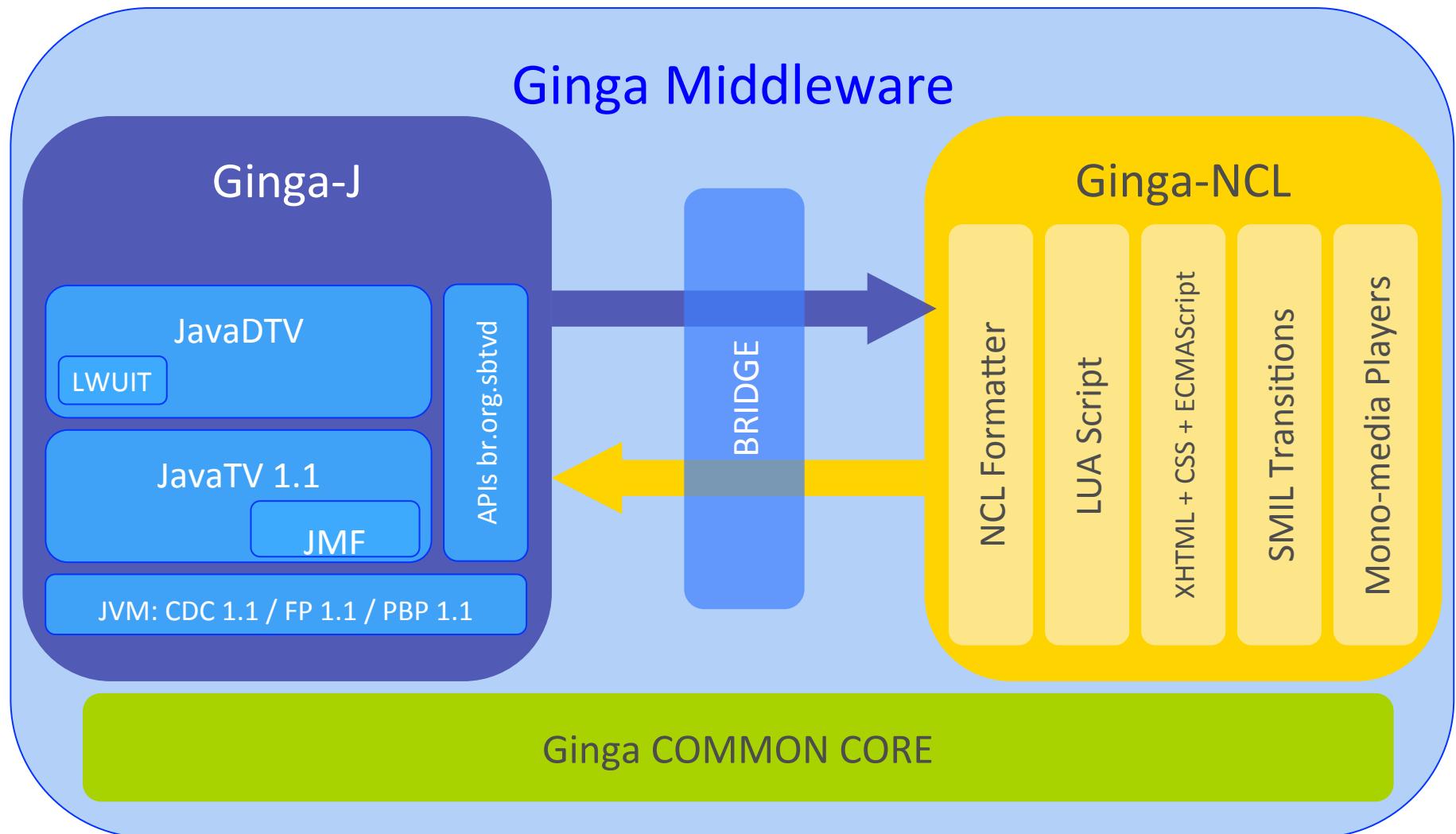


- Accesses the interactive application transmitted by the broadcaster in the 2nd screen.
- Can Identify the user.
- To the **broadcaster** it represents the convergent scenario between normal TV interactivity and the 2nd screen use.
- To the **sponsor**: consumer data / feedback and target advertising.
- To the **user**: combines communal TV use with personal 2nd screen

Ongoing Debate/Battle: Java



Ginga specification according to ABNT NBR 15606 standards.





Ginga-J and Java role in the Digital TV market

- Java is being questioned.
- Java TV TCK is mandatory.
- A use of an ME profile JVM is mandatory.
- Oracle is seen as having secured a monopoly on parts of a standard that should be an international Open Standard.
- Brazilian government is pressing the industry to try to reach a consensus with Oracle.
- Argentina is deciding to go on a different path, advocating dropping Ginga-J from the standard.



Ginga-J implementation licenses / issues

Several manufacturers are now asking:

1. Why this cost (Commercial license for a compatible JVM, JavaTV TCK, etc.)?
2. What are the possible licenses?
3. Is it possible to do a clean room implementation of the whole Ginga-J (including JavaTV)?
4. Is there a way to get an independent JavaTV TCK provider?
5. Is it possible to commercially use a GPL-based JVM implementation (like PhoneME)?
6. Is it possible to strike out the “Java” inheritance inside Ginga-J and call it something else?
7. Is it possible to take out Ginga-J entirely, maybe making it optional?



TOTVS

Ginga-J and Digital TV in Brazil

Let's share

The word "Let's share" is written in a large, bold, sans-serif font. Each letter is filled with a different digital media image, creating a collage effect. The letters include various scenes like a person's face, a landscape, a city skyline, a person's hand, a colorful pattern, a person's face again, a person's face, a person's face, a person's face, and a person's face.

TQTVD – TOTVS Digital TV Unit
Aguinaldo.boquimpani@totvs.com.br

www.totvs.com
www.tqtvd.com