

TV Platforms in Germany

2014 and Beyond



Content

Executive Summary	3
The dynamic German TV landscape	4
Total Cost of Ownership analysis of all TV distribution platforms	6
Case study	8
Conclusion	10

Authors:



Lars Riegel
Manager
TIME Practice Austria
riegel.lars@adlittle.com



Julien Duvaud-Schelnast
Consultant
TIME Practice France
duvaud-schelnast.julien@adlittle.com

Executive summary

The German TV market is well developed and intensely competitive. It is set to become even more dynamic as a result of current technological, market, and regulatory trends.

Developments in the German TV market have increased the interest of both domestic stakeholders and global players looking for parallels in their own markets. Key trends in the market include:

- Intense competition among TV platforms
- Private content distributors, RTL and ProSiebenSat.1, are switching from free TV to paid access business models
- Significant changes in the shareholder structure of key players (Kabel Deutschland, RTL, ProSiebenSat.1, etc.)
- Public broadcasters are unilaterally considering not paying carriage fees to cable operators (e.g. ARD & ZDF on Kabel Deutschland)
- A discussion about the future usage of broadcasting spectrum, which may impact DVB-T and Web-TV
- An ongoing dispute over the net neutrality of the Web-TV players, the costs of which are currently being carried by network operators

This report presents a detailed look at the current state of the German TV market and assesses how these trends could impact future development. In addition, Arthur D. Little's Total Cost of Ownership (TCO) analysis provides insights into the various TV platforms and their overall competitiveness. The scope of this report includes the TV market, and not the broadband/TV bundle. The findings included apply only to the German market; the Total Cost of Ownership in other markets will vary.

The dynamic German TV landscape

Currently, German households access TV content via 1.1 platforms¹, own 1.5 TV¹ sets, and watch not less than 222 minutes of television a day² on average. According to the latest market research, cable-TV, historically the leading platform, is continuously losing ground, as it is under pressure by satellite. 2013 figures also show a slight decrease of overall TV penetration. DTT (Digital Terrestrial Television) penetration decreased in comparison with 2012 while IPTV (Internet Protocol Television) increased, but still remains far behind other platforms with less than 5 percent market share.

The German TV landscape is undergoing important changes that are creating challenges for all stakeholders. These developments can be grouped into technological developments, changes in business models, and landscape evolutions resulting from regulatory changes.

Technological developments are intensifying competition.

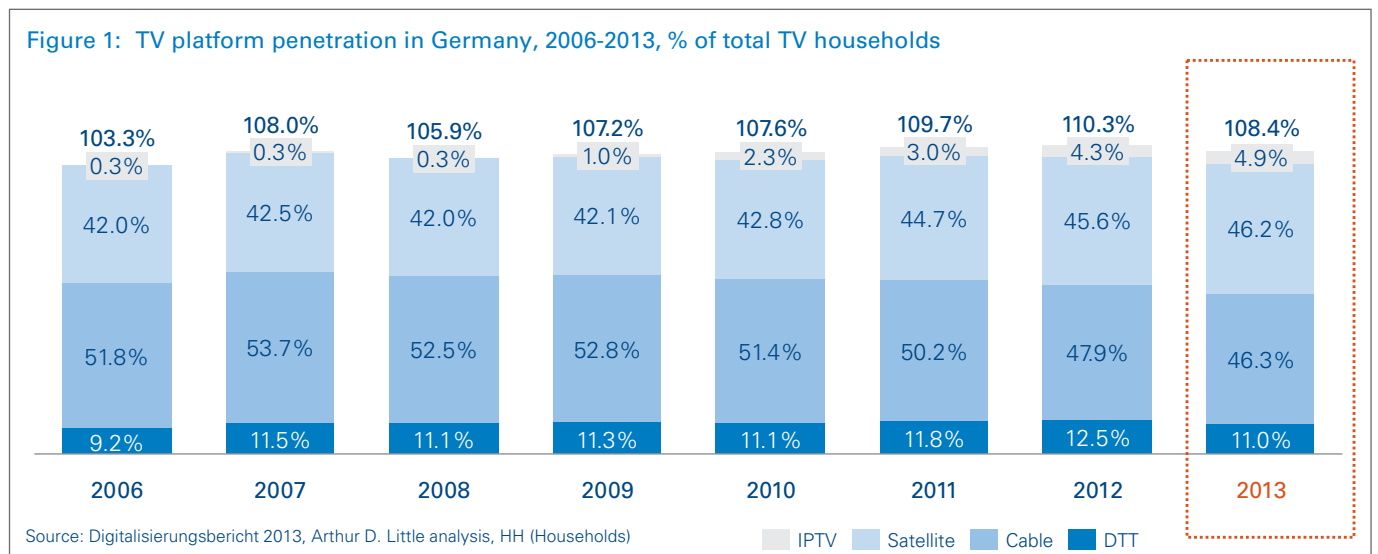
The evolution towards HD (High Definition) broadcast enabled by the utilization of MPEG-4 encoding is an opportunity for the satellite platform to increase its penetration. Cable is still primarily analogue in Germany with only 56 percent of

households accessing cable on a digital signal³. The introduction of interactive services for satellite and DTT represent a shift in the classical features of TV platforms. Today, HbbTV (Hybrid Broadcast Broadband TV) enabled DTT or Satellite TV offer VoD (Video on Demand) databases, interactive features and long tail content, but only if a separate broadband connection is purchased by the household.

Changes in the underlying business models. There is an increasing move from the free TV model towards paid access. Although German households are only partly willing to pay for TV content, indicated by the Pay-TV penetration of 18 percent⁴, around half of all the households must pay a fee to access free TV content via cable and IPTV.

Leading German broadcasters and platform operators are looking for further monetization opportunities from Pay-TV to HD fees (i.e. HD+ of Astra) for end-users and to the much-criticized carriage fees for TV channels. As a result, Sky Deutschland is going to make an annual profit this year for the second time since its launch in the early 1990s. Compared to its Pay-TV

Figure 1: TV platform penetration in Germany, 2006-2013, % of total TV households



1 Digitalisierungsbericht 2013
2 AGF/GFK, 2012

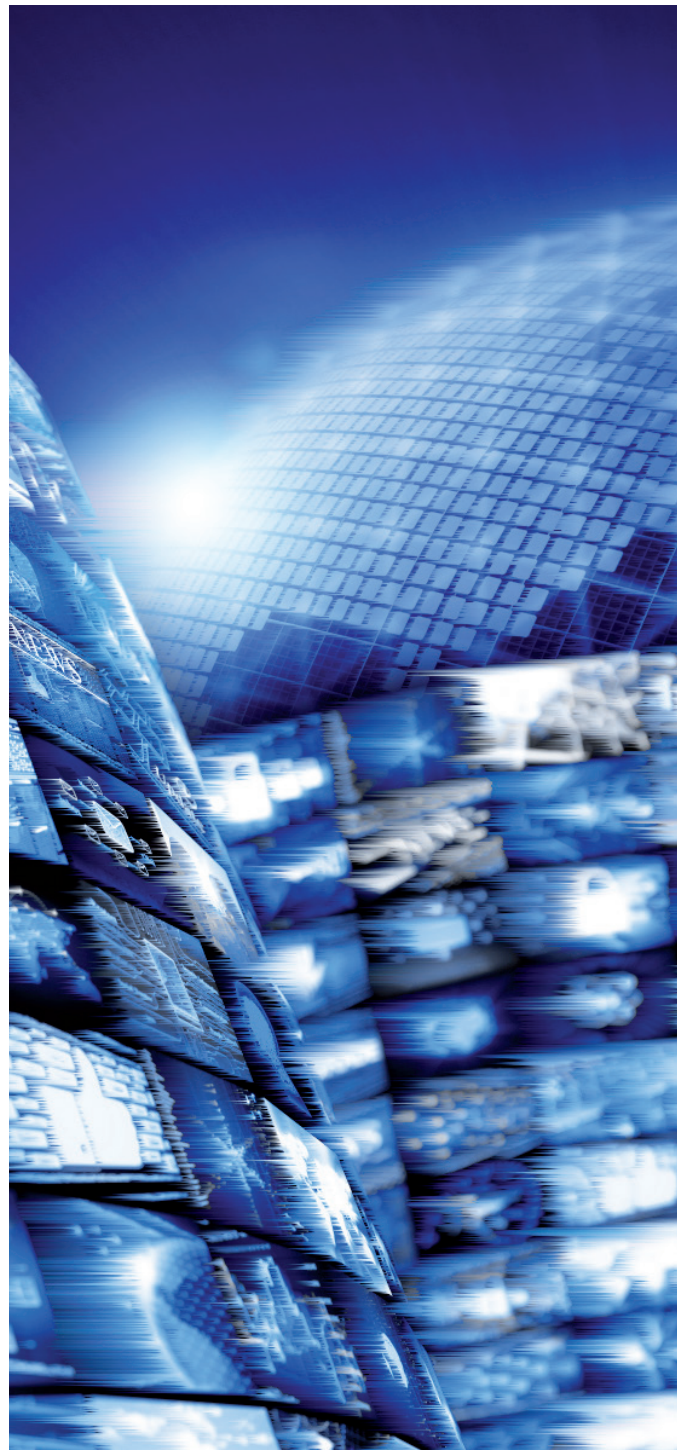
3 Digitalisierungsbericht 2013
4 IDATE 2012

peers, Sky Deutschland has historically struggled to reach critical mass and is still relatively small.

The broadcasting groups, RTL and ProSiebenSat.1, have begun to focus on paid access and other leading private broadcasters are increasingly providing only paid HD content. In the satellite TV market, we see Astra HD+ as the first step in this direction.






Policy and regulatory decisions might soon shape the future of the German TV distribution landscape. Several upcoming decisions, such as on a potential second digital dividend, the broadband strategy of the Bund and the convergence of telecommunication and broadcasting regulation, will be important landmarks determining the future of the German market. Bund and Laender are openly discussing the future usage of spectrum currently used by DVB-T, and the migration of viewers to Web-TV. Meanwhile, Web-TV is attracting a net neutrality discussion, as network operators see their networks filled with OTT (Over-the-top) data, without any resulting profit share.

There are also considerable changes in the ownership structure of leading players in the German market. In August 2013, KKR and Permira reduced their stakes in ProSiebenSat.1 from 88 percent to 44 percent, and Bertelsmann has also indicated its interest in reducing its share in the RTL group. In addition, Vodafone has recently acquired Kabel Deutschland.



Total Cost of Ownership analysis of all TV distribution platforms

Figure 2: Total Cost of Ownership (TCO) analysis of all TV distribution platforms, 2012

	Trans-coding and multi-plexing	Transport	Broadcast/Multicast	Reception device	Total	Connected HH (2012)
 Cable	6%	15%	56%	23%	€1,572M €86 per HH	18.2 Million
 Satellite	2%		6%	92%	€567M €33 per HH	17.3 Million
 DTT	5%	8%	78%	9%	€96M €20 per HH	4.7 Million
 IPTV	3%	74%		23%	€146M €89 per HH	1.6 Million
 Web-TV	7%	34%		59%	€93M €169 per HH	0.6 Million

Source: Arthur D. Little analysis, HH (Households)

German TV channels, regulators, network operators and investors will be facing important decisions in the near future. The related uncertainty in the market makes economic forecasts for companies and investors difficult. Arthur D. Little has developed a comprehensive Total Cost of Ownership (TCO) analysis for all German TV platforms. This tool allows stakeholders to evaluate the strengths and weaknesses of individual platforms and supports long-term decision-making.

The Total Cost of Ownership (TCO) calculation is based on a detailed value chain analysis of the five TV distribution platforms and the cost related to each component of the value chain in 2012. The TCO calculation does not take into account overhead costs, interest, tax or the margins paid between network operators.

Furthermore, this study assesses the annual transfer payments – fees from broadcasters, as well as from end-users – paid to platform operators. In this way, both supplier and consumer value are included. Platforms are compared in terms of both total costs and cost per household, taking into account the respective platform penetration.

DTT had lowest TCO per household in 2012

Our analysis indicates that DTT has the lowest TCO per household (€20) and is 1.6 to 8.3 times more cost efficient than competing platforms. It is followed by satellite, which has a TCO per household of €33. This leading group is much more cost efficient than cable, IPTV and Web-TV with TCOs of €86, €89 and €169, respectively. Despite a TCO comparable to DTT or IPTV, all between €90 and €150 million in 2012, Web-TV is actually the most cost intensive platform considering its current reach in Germany.

Our key findings per platform are summarized below and are applicable only to the German market:

- TV-related cable-TV costs are high due to the capital-intensive network infrastructure that needs to be deployed. The annual depreciation of the access network (last mile connection) amounts to €876 million⁵. A second important element is the cost of the set-top boxes that amount to

⁵ Under the assumption of 58 percent of the access network capacity being used for TV services, although TV is representing a decreasing part of overall network investments. Most investments are driven by broadband and the switch-off of analogue channels is on cable operators' roadmaps

€371 million annually⁶, assuming the average German usage of 4.7 years.

- For the satellite platform, a majority of the costs (93 percent) come from the reception devices (satellite set-top boxes and satellite dishes/cabling). The costs for operating, maintaining and amortizing the satellite are relatively low (€41 million for FTA channels).
- On the terrestrial platform, a majority of the costs come from the operation and depreciation of the access network, which include the antennas broadcasting the signal to the end-user. Compared to other platforms, DTT reception devices are significantly cheaper and mostly integrated by default into TV sets.
- Despite high prices for set-top boxes, the platform costs for IPTV are comparable to those of cable, as the infrastructure primarily uses an internet connection. In fact, only a fraction of the entire network costs are allocated to the IPTV business, as IPTV providers generate revenues from connectivity, which takes up a small share of their network capacity. Furthermore, depreciation of additional infrastructure investments into the access network is mainly allocated to IPTV.
- Web-TV represents a TCO of €93 million, when considering only costs that are directly associated with the consumption of content by the end-user, as well as the price for equipment located at the customers' premises (set-top boxes are included in order to be comparable with other TV platforms). The network costs, representing over a third of the TCO (€32 million), depend on the data volume, and are currently borne by network operators, not by content providers.

Web-TV and IPTV have the highest supplier value, while DTT has the best consumer value

An analysis of transfer payments from the upstream stages of the value chain shows that Web-TV and IPTV did not charge significant fees to broadcasters in 2012. In contrast, cable, DTT and satellite charge distribution fees to media companies ranged from €119 to €287 million in 2012. When taking into account

the reach of the platforms, this corresponds to a distribution fee of €7 per household per satellite, which is the lowest in our comparison, while cable and DTT cost €16 and €34 per household, respectively. Public channels have recently decided to stop paying the distribution fee on the cable platform which is subject of an ongoing lawsuit, but private channels may very well follow in the near future.

DTT and satellite (excluding HD+ and Pay-TV) are the only platforms to provide a comprehensive FTA (Free-to-Air) bouquet, while cable and IPTV charge a monthly fee, which amounts to over €3 billion in the case of cable. To enjoy a similar bouquet on Web-TV, the end-user needs to pay a monthly fee.

In terms of IPTV, some channels are paying carriage fees; others are paid to become part of the bouquet. Overall the content payments are negligible in the case of IPTV. In the case of Web-TV, paid content business models are still evolving; currently, there are no significant payments being made.

An assessment of only the free-to-air satellite bouquet (excluding HD+ and Pay-TV) indicates that satellite is currently cheaper than Web-TV for end-users. However, more paid access business models for Web-TV can be expected in the medium- or long-term.

A cumulated transfer payment view shows that after IPTV (10x), cable is the most expensive TV distribution platform (30x) due to carriage and end-user fees. Even the currently discussed cessation of payment from broadcaster to cable platform operators would only marginally reduce the significant transfer payments per household.

Our principal findings in terms of transfer payments include:

- Based on a paid access business model for digital content, the cable and IPTV platforms pass a majority of their costs on to the end-users.
- Although the satellite platform offers a rich FTA bouquet, platform operators generate a significant amount of end-user revenue from additional packages, such as HD and Pay-TV channels.

⁶ Similar price of STBs assumed for IPTV and Cable €96 based on Eito/GfK 2012

- While DTT platform operators charge a carriage fee to broadcasters, the usage for end-users is completely free of charge.
- Apart from transport costs, Web-TV users and content providers do not have to pay additional fees for the distribution of TV content to platform operators. It is important to note that high TV data volumes cause significant CDN (Content delivery network) costs for broadcasters, but are not considered in this calculation.

Cross subsidization of Web-TV by network operators and the net neutrality discussion

When considering all costs of the various stakeholders, Web-TV appears to be a relatively cheap TV distribution platform. However, this distribution channel is a unique case as the distribution costs are mainly borne by network operators. The average German TV consumption of 222 minutes would generate 85 GB/month in HD resulting in significant cost for telecom operators. Web-TV companies are in fact subsidized by network operators, which carry 41 percent of their Total Cost of Ownership. This fact has raised the issue of network neutrality, in order for telecom network operators to get a revenue share from this business.

Case study:

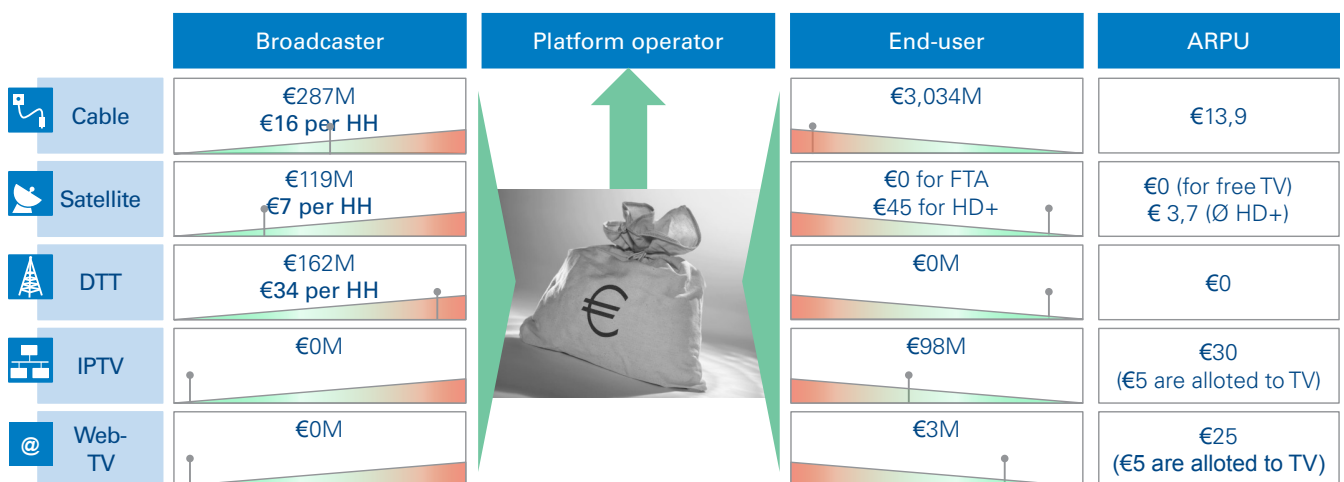
Migration scenario after a DTT switch-off

In Germany, terrestrial broadcasting is under pressure due to intense platform competition and on-going discussions on spectrum.

- The RTL group plans to cease DTT transmission in Germany by the beginning of 2015.
- Debate on the second digital dividend and premature auction of the 700 MHz band.
- Recent studies, for example by mediareports Prognos, are assessing the possibility of Web-TV replacing DTT in urban areas.

A variety of market players are following the current situation in Germany. This case study investigates the costs associated with a hypothetical DTT switch-off in Germany. Against this backdrop, such a TV platform switch-off without substitution is very interesting as such a case has not yet taken place anywhere in the world.

Figure 3: Transfer payments of all TV distribution platforms, 2012



Source: Arthur D. Little analysis, HH (Household)

Total migration to one of the alternative platforms is significantly more expensive than upgrading the DTT platform to DVB-T2

The cost of migration of all DTT households to one of the alternative platforms in 2013 would range from €578 million to €2.31 billion depending on the platform. These costs arise from additional network investments and equipment/device costs, as well as annual basic fees to enable DTT users to change the platform. However, total costs would in any case be significantly higher than upgrading the DTT platform to the latest transmission standard. The costs would amount to €43 million for transmitter upgrade and €30 million on the consumer side for DVB-T2 antennas. In addition, the constraints of each platform, such as the increasing marginal cost per additional household, network coverage limitations and network capacity, are not taken into account.

Migration to alternative platforms taking into account DTT user characteristics and multi-equipped households

The most likely scenario, given the current level of multi-access, would result in half of the DTT users migrating to cable (49 percent), one-third to satellite (37 percent), and 6 percent to IPTV. The rest (8 percent) will not change to any of the traditional platforms and will partly access TV via Web-TV. This migration estimate is based on the current platform penetration, while differentiating between urban and rural areas, and taking into account DTT user characteristics and multi-equipped households. Even considering that 50 percent of the DTT users already receive TV content via an additional TV platform access and therefore would not need further equipment, significant costs will arise. A DTT switch-off will result in additional one-off costs of €984 million and annual costs of €423 million. End-users will most likely pay the majority of these costs: €432 million in one-off costs for end-user equipment, and €423 million in annual costs for the platform access (not less than €204 per migrating household in the migration year). Consumers with free DTT plus a possible mobile broadband connection would have to bear significantly higher costs in the future.

Figure 4: Migration costs of 4.2 million DTT households to one of the alternative platforms, 2013

	Network investments	End-user costs for equipment/devices	Annual end-user subscription fee	Total (migration of all DTT end-users)
Cable	€1,316M	€371M	€569M	€2,256M
Satellite	€0	€578M	€0	€578M
IPTV (with 16 Mbit/s)	€1,656M	€401M	€250M	€2307M
Web-TV (with 2 Mbit/s)	€75M	€420M	€252M	€747M
eMBMS	> €3,650M	N/A	N/A	> €3,650M
DTT upgrade	€43M	€30M	€0	€73M

Source: Arthur D. Little analysis , HH (Household)

Figure 5: Migration scenario of all DTT end-users spread among the existing alternative platforms, 2013

	Cable	Satellite	IPTV	Web-TV / no TV substitution	
Rural	39%	50%	3%	8%	1.14m HH
Urban	53%	32%	7%	8%	3.06m HH
Total	2.07m HH 49%	1.53m HH 37%	0.26m HH 6%	0.34m HH 8%	4.20m HH 100%
One-off costs	€662M	€175M	€108M	€40M	€984M
Annual subscr. costs	€345M	€52M	€16M	€10M	€423M

Source: Arthur D. Little analysis , HH (Household)

Conclusion

Based on our analysis, we believe that there is a justified place in the German TV platform market for all five platforms. Factors beyond simple cost need to be considered when designing tomorrow's media landscape in Germany, and we see complementary and strong value for the end-user in having terrestrial, satellite and fixed network broadcasting.

New technologies will enable enhanced user experience and favor platforms that quickly adapt to emerging uses. Nevertheless, Web-TV should not be considered as a viable opportunity for TV content distribution without a business model that enables fair reimbursement for use of network infrastructures, which is not the case at the moment. The migration of terrestrial TV to Web-TV is inefficient from a macroeconomic point of view. In the long run, a discussion regarding compensation of network operators Web-TV costs will intensify and likely result in additional costs for end-users.

The development of the German TV landscape is advanced in certain aspects and similar developments can be expected in many media markets. The complex way TV platform competition functions and interacts is hard to predict. Multi-device usage scenarios will complicate this industry even further.

A solid data foundation is required to anticipate the next risk or opportunity. The Total Cost of Ownership analysis, which assesses profitability and competitiveness, as well as consumer and supplier value, is an important tool to forecast the development of media players' valuations. Also, the TCO effectively determines the strategic scope of various options. Arthur D. Little's deep understanding of the media industry, technologies and their implications on cost developments, as well as marketing and regulatory strategies, helps companies to thrive in this competitive marketplace.

Contacts

If you would like more information or to arrange an informal discussion on the issues raised here and how they affect your business, please contact:

Austria

Karim Taga
taga.karim@adlittle.com

Italy

Giancarlo Agresti
agresti.giancarlo@adlittle.com

The Netherlands

Martijn Eikelenboom
eikelenboom.martijn@adlittle.com

Belgium

Jean Fisch
fisch.jean@adlittle.com

India

Srini Srinivasan
srinivasan.srini@adlittle.com

Nordic

Martin Glaumann
glaumann.martin@adlittle.com

China

Jian Xu
xu.jian@adlittle.com

Japan

Yusuke Harada
harada.yusuke@adlittle.com

Spain

Jesus Portal
portal.jesus@adlittle.com

Czech Republic

Dean Brabec
brabec.dean@adlittle.com

Korea

Kevin Lee
lee.kevin@adlittle.com

Switzerland

Clemens Schwaiger
schwaiger.clemens@adlittle.com

France

Didier Levy
levy.didier@adlittle.com

Malaysia & Singapore

Thomas Kuruvilla
kuruvilla.thomas@adlittle.com

UK

Richard Swinford
swinford.richard@adlittle.com

Germany

Michael Opitz
opitz.michael@adlittle.com

Middle East

Lokesh Dadhich
dadhich.lokesh@adlittle.com

USA

John W. Brennan
brennan.john@adlittle.com



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