IDC OPINION

IDC predicts extremely rapid adoption of programmatic TV advertising technology. In the United States, by 2017, programmatic advertising spending in linear TV will outgrow that in streaming video. By 2019, programmatic TV spend will be bigger than even digital RTB, the most important programmatic segment today. Also by 2019, programmatic TV ad spend growth will have become so fast that spending on traditional TV advertising will decline for the first time. IDC also finds:

- In the U.S., the share of programmatic TV advertising of total spending on TV advertising will grow from barely one tenth of one percent in 2014 to 13% in 2019. Spending on programmatic TV will grow from $50 million in 2014 by a compound annual growth rate (CAGR) of 197% to $11.4 billion in 2019.
- Worldwide, the share of programmatic TV advertising of worldwide spending on TV advertising will grow from almost nothing in 2014 to 5% in 2019. During the same time, total worldwide spending on programmatic TV will grow from $69 million in 2014 by a CAGR of 201% to $17.3 billion in 2019.
- With programmatic TV, marketers get better targeting, access to new inventory, and a unified, easy-to-use interface integrating and simplifying the workflow by adopting programmatic TV.
- Programmatic TV helps sellers to improve sales. By overlaying advanced audience data onto Kantar ratings, their clients’ targeting capabilities are vastly improved, thereby making inventory more valuable. The same technique also allows looking at inventory in smaller increments than in the traditional 30-minute-segment view, thereby unlocking undersold inventory.
- Sales are also helped by exposing inventory to more buyers through tapping into the programmatic ecosystem. Multichannel video programming distributors (MVPDs) selling local advertising can unlock the national market through the use of PTV.
- Programmatic TV reduces sellers’ costs through automating the workflow, which today in large parts is still manual, and therefore slow, error-prone and expensive.
- The rapid evolution of the media ecosystem brought upon by the beginning shift from linear TV to streaming video spells out a future for which TV must reinvent itself to remain competitive. Even though consumers’ and advertisers’ transition to streaming video from linear TV is in its earliest stages, media owners need programmatic technology’s help to sell their inventory in the digital space, to better compete with the growing threat from digital-native companies such as Netflix and Amazon, and to offer a better advertising product to buyers who have become used to programmatic videos’ superior targeting and reporting capabilities.
METHODOLOGY

Qualitative and quantitative information in this research document stem from the following sources:

- In-depth interviews with twelve industry executives at vendors, media owners and ad agencies involved with programmatic TV and video.
- Interviews with 50 ad agency executives in 10 countries: the United States, the United Kingdom, France, Germany, Russia, Japan, China, Korea, Brazil and Mexico.
- Previous IDC research on programmatic advertising.
- Publicly available information.

Current market sizes were established based on interviews; regional spending was estimated. Forecasts were based on expectations of interviewees, by taking into account drivers and inhibitors, as well as by using growth trajectories in comparable emergent segments in the past. This document outlines managed revenue only.

IN THIS WHITE PAPER

In this white paper, IDC explores the use of programmatic technology for the sale and transaction of TV advertising. It sizes and forecasts TV ad spend managed using programmatic technology in the United States, the United Kingdom, France, Germany, Russia, Japan, China, Korea, Brazil and Mexico, as well as in the regions, and the world. For the United States, this study analyzes the advantages programmatic TV offers to buyers and sellers, investigates current programmatic TV adoption levels, trends, drivers and inhibitors.

Follow Karsten Weide on Twitter at @karstenw.
LIST OF TABLES

1  Total Programmatic Television Advertising Spend          17
2  Total Programmatic Video Advertising Spend               19
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Share of U.S. Households Without Cable, Satellite or Telco TV Subscription</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>U.S. TV and Video Advertising Spending Shares Of Overall Advertising</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Total Programmatic Television Advertising Spend</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>Worldwide Programmatic TV and Video Advertising Spending</td>
<td>18</td>
</tr>
<tr>
<td>5</td>
<td>United States - Spending on Programmatic TV and Video Advertising Versus RTB</td>
<td>22</td>
</tr>
<tr>
<td>6</td>
<td>United States - Spending On Traditional and Programmatic TV Advertising</td>
<td>23</td>
</tr>
</tbody>
</table>
SITUATION OVERVIEW


Worldwide Markets

IDC expects extremely fast growth for advertising spending based on programmatic television technology. The share of programmatic TV advertising of worldwide spending on TV advertising will grow from almost nothing (less than one tenth of one percent) in 2014 to 5% in 2019. During the same time, total worldwide spending on programmatic TV will grow from a very small base of $69 million in 2014 by a CAGR of 201% to $17.3 billion in 2019. By 2018, programmatic advertising spending in linear TV will outgrow that in streaming video, and by 2019, PTV spending will be more than twice that in video, despite the ongoing shift in consumer preference from TV to video. (See Figures 1 and 2 and Tables 2 and 3 below.)

The above numbers illustrate that programmatic TV is very different from digital programmatic in that its underlying total addressable market (TAM) is almost twice the size ($257 billion worldwide) of the digital one ($139 billion). Even with adoption rates that are lower than in the digital space, PTV-based advertising spending will soon rival digital numbers.

Programmatic TV growth will be driven by buyer demand, and by sellers’ desire to improve sales through improving inventory quality by applying advanced audience data, by exposing inventory to more buyers via DSPs, through selling unsold inventory and unlocking undersold inventory, and cost reduction through automation. The ultimate goal is to improve competitiveness within the linear TV industry and, faced with a rapidly evolving and changing media ecosystem, within the digital media industry as well.

The United States will remain by far the biggest market for programmatic television over the next five years, with a market share of 66% in 2019. Tier 2 markets will be Japan (with a 9% market share in 2019) and China (8%). Tier 3 markets will be Germany (3%) and the United Kingdom (2%). Interestingly, we expect the UK to only be the no. 5 market despite the fact it will be the most mature PTV market after the U.S. The recent announcement of Ad Smart, an STB-based ad insertion service, by Sky and Cisco is one sign the UK is not that far behind the U.S. But the UK’s relatively high rate of PTV penetration applies to a smaller overall TV market than the other markets mentioned above. Japan, China and Germany, while perhaps not boasting as high PTV adoption rates, are much bigger TV advertising markets than the UK.
FIGURE 1

Total Programmatic Television Advertising Spend ($M)

FIGURE 2

Worldwide Programmatic TV and Video Advertising Spending

Note: Video and RTB consists of online and mobile ads. Some revenue double-counted between video and RTB.

Table 1

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>10.0</td>
<td>20.0</td>
<td>50.0</td>
<td>200.0</td>
<td>987.7</td>
<td>2,938.7</td>
<td>6,168.4</td>
<td>11,480.6</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>100.0</td>
<td>150.0</td>
<td>300.0</td>
<td>393.9</td>
<td>197.5</td>
<td>109.9</td>
<td>86.1</td>
<td>196.6</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>0.0</td>
<td>0.6</td>
<td>1.1</td>
<td>2.3</td>
<td>8.2</td>
<td>39.1</td>
<td>111.2</td>
<td>226.3</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>97.2</td>
<td>109.6</td>
<td>247.9</td>
<td>379.2</td>
<td>184.4</td>
<td>103.5</td>
<td>189.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>0.0</td>
<td>0.6</td>
<td>1.3</td>
<td>3.7</td>
<td>13.7</td>
<td>71.6</td>
<td>223.9</td>
<td>507.5</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>124.3</td>
<td>187.3</td>
<td>273.4</td>
<td>422.1</td>
<td>213.0</td>
<td>126.6</td>
<td>231.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.0</td>
<td>0.9</td>
<td>1.8</td>
<td>3.9</td>
<td>13.8</td>
<td>60.9</td>
<td>169.4</td>
<td>351.2</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>103.1</td>
<td>113.0</td>
<td>253.4</td>
<td>342.4</td>
<td>178.2</td>
<td>107.3</td>
<td>186.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>0.0</td>
<td>0.0</td>
<td>0.5</td>
<td>0.5</td>
<td>1.4</td>
<td>6.2</td>
<td>34.7</td>
<td>110.1</td>
<td></td>
</tr>
</tbody>
</table>
## Table 1

**Total Programmatic Television Advertising Spend ($M)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growth (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td>0.0</td>
<td>3.1</td>
<td>6.0</td>
<td>11.6</td>
<td>44.5</td>
<td>232.1</td>
<td>714.6</td>
<td>1,543.0</td>
<td></td>
</tr>
<tr>
<td><strong>Australia</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.6</td>
<td>0.9</td>
<td>2.5</td>
<td>10.2</td>
<td>46.3</td>
<td>129.6</td>
<td></td>
</tr>
<tr>
<td><strong>China</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>2.2</td>
<td>5.8</td>
<td>16.7</td>
<td>73.6</td>
<td>400.8</td>
<td>1,303.9</td>
<td></td>
</tr>
<tr>
<td><strong>Singapore</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.2</td>
<td>0.8</td>
<td>4.0</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td><strong>Brazil</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.7</td>
<td>1.0</td>
<td>2.6</td>
<td>10.4</td>
<td>53.6</td>
<td>166.2</td>
<td></td>
</tr>
<tr>
<td><strong>Mexico</strong></td>
<td>0.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.4</td>
<td>1.1</td>
<td>4.6</td>
<td>24.6</td>
<td>78.7</td>
<td></td>
</tr>
<tr>
<td><strong>Rest of World</strong></td>
<td>0.0</td>
<td>0.5</td>
<td>4.2</td>
<td>8.0</td>
<td>22.1</td>
<td>94.0</td>
<td>413.9</td>
<td>1,209.5</td>
<td></td>
</tr>
<tr>
<td><strong>World</strong></td>
<td>10.0</td>
<td>25.9</td>
<td>69.3</td>
<td>239.8</td>
<td>1,120.7</td>
<td>3,574.6</td>
<td>8,461.0</td>
<td>17,319.4</td>
<td></td>
</tr>
<tr>
<td><strong>Growth (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Notes:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Source:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IDC, 2015</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>Incl. online and mobile display and video advertising. Incl. RTB, private marketplaces and automated guaranteed advertising.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>----------------</td>
</tr>
<tr>
<td>United States</td>
<td>71.2</td>
<td>268.6</td>
<td>733.9</td>
<td>1,816.2</td>
<td>3,086.3</td>
<td>4,978.0</td>
<td>7,535.0</td>
<td>10,787.2</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>277.2</td>
<td>173.2</td>
<td>147.5</td>
<td>69.9</td>
<td>61.3</td>
<td>51.4</td>
<td>43.2</td>
<td>71.2</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>0.0</td>
<td>4.8</td>
<td>14.5</td>
<td>51.6</td>
<td>123.4</td>
<td>221.1</td>
<td>366.3</td>
<td>572.7</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>202.0</td>
<td>255.2</td>
<td>139.0</td>
<td>79.1</td>
<td>65.7</td>
<td>56.3</td>
<td>108.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>0.0</td>
<td>3.6</td>
<td>12.1</td>
<td>44.2</td>
<td>101.8</td>
<td>173.6</td>
<td>273.0</td>
<td>398.0</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>236.6</td>
<td>264.5</td>
<td>130.3</td>
<td>70.5</td>
<td>57.3</td>
<td>45.8</td>
<td>101.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>10.6</td>
<td>57.4</td>
<td>139.9</td>
<td>396.3</td>
<td>634.5</td>
<td>887.9</td>
<td>1,349.7</td>
<td>2,059.9</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>443.6</td>
<td>143.6</td>
<td>183.2</td>
<td>60.1</td>
<td>39.9</td>
<td>52.0</td>
<td>52.6</td>
<td>71.2</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>0.0</td>
<td>0.0</td>
<td>2.0</td>
<td>4.6</td>
<td>18.5</td>
<td>52.6</td>
<td>115.0</td>
<td>213.2</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>133.7</td>
<td>302.9</td>
<td>184.8</td>
<td>118.7</td>
<td>85.3</td>
<td>155.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>0.0</td>
<td>31.1</td>
<td>74.1</td>
<td>154.0</td>
<td>288.6</td>
<td>464.6</td>
<td>654.4</td>
<td>897.3</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>138.0</td>
<td>108.0</td>
<td>87.3</td>
<td>61.0</td>
<td>40.8</td>
<td>37.1</td>
<td>64.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>0.0</td>
<td>9.3</td>
<td>29.7</td>
<td>106.4</td>
<td>261.0</td>
<td>446.3</td>
<td>662.0</td>
<td>971.0</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>219.9</td>
<td>258.4</td>
<td>145.4</td>
<td>71.0</td>
<td>48.3</td>
<td>46.7</td>
<td>100.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>0.0</td>
<td>0.0</td>
<td>8.0</td>
<td>34.3</td>
<td>84.2</td>
<td>166.4</td>
<td>243.8</td>
<td>342.8</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>328.8</td>
<td>145.2</td>
<td>97.7</td>
<td>46.5</td>
<td>40.6</td>
<td>112.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>0.0</td>
<td>0.0</td>
<td>8.5</td>
<td>33.3</td>
<td>85.2</td>
<td>184.6</td>
<td>306.1</td>
<td>490.6</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>293.2</td>
<td>155.7</td>
<td>116.6</td>
<td>65.8</td>
<td>60.3</td>
<td>125.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>0.0</td>
<td>0.5</td>
<td>1.4</td>
<td>4.8</td>
<td>9.2</td>
<td>14.9</td>
<td>22.2</td>
<td>33.9</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>171.8</td>
<td>251.8</td>
<td>89.9</td>
<td>62.7</td>
<td>48.5</td>
<td>52.8</td>
<td>89.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>0.0</td>
<td>0.0</td>
<td>4.5</td>
<td>13.8</td>
<td>34.7</td>
<td>68.1</td>
<td>116.3</td>
<td>176.4</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>204.5</td>
<td>150.6</td>
<td>96.5</td>
<td>70.7</td>
<td>51.7</td>
<td>107.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>0.0</td>
<td>0.0</td>
<td>0.9</td>
<td>2.3</td>
<td>6.0</td>
<td>12.1</td>
<td>20.5</td>
<td>30.3</td>
<td></td>
</tr>
</tbody>
</table>
Table 2

Total Programmatic Video Advertising Spend ($M)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rest of World</td>
<td>0</td>
<td>8</td>
<td>42</td>
<td>138</td>
<td>334</td>
<td>685</td>
<td>1,195</td>
<td>1,910</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>411.9</td>
<td>227.9</td>
<td>142.2</td>
<td>105.1</td>
<td>74.6</td>
<td>59.8</td>
<td>114.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World</td>
<td>81.8</td>
<td>383.6</td>
<td>1,071.5</td>
<td>2,799.8</td>
<td>5,067.1</td>
<td>8,354.9</td>
<td>12,859.4</td>
<td>18,883.6</td>
<td></td>
</tr>
<tr>
<td>Growth (%)</td>
<td>369.1</td>
<td>179.3</td>
<td>161.3</td>
<td>81.0</td>
<td>64.9</td>
<td>53.9</td>
<td>46.8</td>
<td>77.5</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Incl. online and mobile video advertising. Incl. RTB, private marketplaces and automated guaranteed advertising.


United States

In the U.S., the share of programmatic TV advertising of total spending on TV advertising will grow from one tenth of one percent in 2014 to 13% in 2019. Spending on programmatic TV will grow from $50 million in 2014 by a CAGR of 197% to $11.4 billion in 2019. By 2017, programmatic advertising spending in linear TV will outgrow that in streaming video, and by 2019, PTV spending will be bigger than even digital RTB, the most important programmatic segment today. At that point, PTV will also be more than twice as big as programmatic video. Also by 2019, PTV will become so big that absolute spending on traditional TV advertising will decline for the first time. (See Figures 3 and 4 below.)
FIGURE 3

United States - Spending on Programmatic TV and Video Advertising Versus RTB

Note: Video and RTB consists of online and mobile ads. Some revenue double counted between video and RTB.

United States - Spending On Traditional and Programmatic TV Advertising

Note: Video and RTB consists of online and mobile ads. Some revenue double-counted between video and RTB.


Western Europe, the United Kingdom and Germany

In the near term, the second-most interesting region for programmatic TV investments will be Western Europe (see Figure 5 below). PTV’s share of total spending on TV advertising will grow from almost nothing in 2014 to 4% in 2019. Spending on programmatic TV will grow from just $6 million in 2014 by a CAGR of 203% to $1.5 billion in 2019.

The region is about 24 months behind the U.S., with the UK clearly in the lead in terms of adopting PTV. The UK, together with Germany and France, will remain the three biggest PTV markets in WE in the foreseeable future.

In the UK, Sky is taking the lead with the rollout of its new Sky IQ and Sky AdSmart services, which allow advertisers to more finely target their campaigns on linear TV. In other initiatives, media owners have begun to make more of their digital inventory available through programmatic channels, most notably Channel 4 at its upfront earlier this year (2015), partnering with Freewheel.
Asia-Pacific, Japan and China

In the longer run, we expect the APAC region, in particular Japan and China, to overtake WE in importance pretty rapidly. Japan, because we expect it to adopt PTV as quickly as the UK and because its TV advertising market is almost three times as big as that of the latter. China, not because it were so PTV-advanced, but rather because its overall TV market is almost twice as big as that of WE, so that even with small PTV penetration rates absolute programmatic TV spending will soon reach towering proportions. PTV's share of total TV advertising spending will grow from next to nothing in 2014 to 2.5% in 2019. Spending on programmatic TV will grow from just $10 million in 2014 by a CAGR of 203% to $3.5 billion in 2019. (See Figure 6 below.)
Programmatic TV Advertising

Programmatic technology is sweeping advertising as the industry pushes - and is pushed - to automate digital advertising and make it more efficient. Now, programmatic is coming to television. It arrives with a mission is to reinvent an industry that has not changed much since the first ad ran for Bulova on WNBT in 1941. Now both advertisers and media owners are exploring programmatic technology: how it could make TV advertising better than our fathers' TV advertising - how it could help them save money and be more profitable, and ultimately, how it could help them to remain competitive facing the challenges of changing consumer behavior and an evolving media landscape.

In a way, programmatic is coming to television for the second time. In 2011, Google was the first company to make an attempt at automating the trading of television advertising. But it shut down the project in 2012 when it realized that while some minor media owners had signed on, no major inventory partners would join. The undertaking failed for a couple of reasons. One, because the trading platform was too advanced and transparent. It utilized real-time bidding in auctions of inventory, which publicly revealed prices. This made sellers nervous, making them feel they were losing control over pricing. And two, more importantly, sellers ran scared "because [they] felt Google was trying to take it all over. And they were right", as one industry executive told us in an interview.

But now, a second wave of companies is offering PTV to buyers and sellers, and they have learned from Google's mistakes. Their new products are constrained to automating the workflow, and to applying advanced audience data in a smart way to make TV advertising more effective. There are, at least for now, no auctions, and no real-time bidding in PTV.

PTV vendors realize that media owners, since they are in near-complete control now, must retain complete control and transparency on the vendors' new PTV platforms because otherwise they would not adopt programmatic.

Google in the meantime has switched to a long-term plan with Google Fiber, its own experimental TV distribution network which delivers linear TV. Google Fiber is offered in three U.S. cities, with plans to expand the service to a dozen. In Kansas City, Google Fiber runs a pilot advertising platform on which each TV set is addressable separately, and which also supports advanced TV ad tracking. Google currently does not offer a product that would allow one to buy or sell traditional TV advertising.

**What is Programmatic TV?**

Programmatic TV advertising stands for the use of software platforms to automate the workflow of TV advertising and to improve the effectiveness of TV advertising through the use of advanced TV audience data. Platforms do not need to support auction-based sales or real-time bidding in order to qualify as PTV.

Programmatic TV mainly refers to advertising on traditional, live TV, which is distributed via cable, satellite and broadcast (the so-called "linear TV"). It also includes video on demand (VOD) distributed by cable network and satellite operators and time-shifted viewing of TV content from digital video recorders (DVRs), even though these applications stand much less in the limelight than linear TV.

**Workflow Automation & Advanced Audience Data**

Programmatic TV automates the workflow of advertising on linear TV. Campaign planning, requests for proposals, price negotiation, copy management, scheduling ad insertions, the actual insertion of copy, reporting, billing... TV advertising's workflow is no less complex than that of digital advertising, and much of it is as manual, including Excel files, phone calls, emails, and even faxes. PTV platforms automate these processes by integrating existing systems while maintaining the unique business relationships, processes and rules of TV. Unified user interfaces make the technological complexity transparent to the user.

But 90% of programmatic TV's added value stems from the use of advanced audience data, which greatly improves planning campaigns and trading TV inventory. It also makes commercials more effective thanks to better targeting, which increases inventory value for sellers, and improves return on advertising spend (ROAS) for buyers.

Today's ability to reach specific audiences through TV is fairly inefficient. Typically, TV ad slots are bought based on Nielsen Ratings data, which for each TV program only provides basic demographic audience information: age, sex, race, economic class, and region. Think of the capabilities of traditional TV targeting as if it was the Web in 1995.

PTV platforms add an additional layer of advanced audience data on top of the Nielsen data, which enable a much more granular look at TV audiences. (Since Nielsen data is the standard currency of the TV industry, replacing it is not an option.) Instead of buying rough-hewn audiences, advertisers can
now target more specific subsets, for instance, college-educated women with more than two kids and an annual household income of more than $150,000 who are also in the market for a new car. One buyer told us of the difference: "With programmatic TV, it's a little like instead of your old glasses with that blurry vision, now you have these brand new glasses and now you see everything crisp and clear."

There are a lot of different data sources used in PTV: panel-based set-top box (STB) data from Rentrak, Kantar and TiVo Research and Analytics (TRA), data from 3rd party data management platforms (DMPs), and even census data. Two more sources are particularly valuable: data that media owners have on their audiences, and data that advertisers have on their customers. Attribution companies provide performance data, i.e., insights into whether viewers who saw a specific commercial actually purchased something after the fact. These data can be used to optimize ongoing campaigns or plan the next one.

All of these data have of course been around for a while, but might as well have not existed since it was so hard to apply them to decision-making without automation. Only now with programmatic TV software can they be transformed into actionable insights at the transaction level: that is the true breakthrough that PTV platforms have accomplished.

**Auctions, Real-Time Bidding & Addressability**

In the majority of digital programmatic advertising, in RTB-based open marketplaces and private marketplaces as well, there is automated, algorithmic real-time auction-based purchasing of inventory. Programmatic TV today, on the other hand, typically does not offer real-time-based trading.

At this point in time, WideOrbit is the only PTV supply-side platform (SSP), which does support auctions, i.e., bidding on inventory. But WideOrbit's auctions are not fully automatic. Its live deployments are set up so that for each piece of inventory, the seller can still manually compare the auction bids with the prices their direct sales force would be able to realize. In other words, the seller still needs to manually confirm the electronic sale, which can still take anywhere between 1 - 7 days depending on which rules the partners have agreed upon. This setup has been designed to assuage station managers' fears they could lose control over pricing. But WideOrbit and its DSP partners, such as The Trade Desk and TubeMogul, believe that as station managers see that the auctions consistently return better prices than direct sales, they will eventually allow electronic sales to go forward automatically. At that point, the whole process from bidding to inserting the ad could happen fully automatically within 24 hours.

Yet, it is important to note that even WideOrbit's setup only allows auctions of future reservations of advertising inventory. It is not an RTB-based auction. In fact, presently, real-time bidding does not happen at all in TV, nor is it possible. All TV advertising sales are future contracts: Buyers always pay media owners for inventory that the latter will only deliver later. A good portion of inventory is sold ahead of time once a year at the "upfronts," big, fancy, seller-sponsored events at which the major networks sell part of their inventory to buyers at lower prices, in order to secure a revenue base which they can bank on. But even the so-called "scatter," more expensive inventory sold later on a case-by-case basis, is sold with a typical lead time of four to seven days (it could be as short as 24 - 48 hours in some cases); the actual time window varies by media owner. In other words, when a buyer has already agreed to buy certain advertising slots, it still takes several days until their commercials actually run.
TV inventory is never sold on a real-time basis, i.e., as it becomes available, as is the case for most programmatically sold display advertising inventory in the digital world (sales of the inventory that went unsold in direct sales and is now sold on the spot market as non-guaranteed inventory). Neither are TV's business processes set up to sell in real-time, or the underlying technology enabling them.

Since there are no real-time sales in TV, every purchase of TV ad inventory is in fact a guaranteed or reserved buy. As the TV industry adopts programmatic TV, since all PTV buys are guaranteed buys, this will have the interesting side-effect that PTV will promote the adoption of programmatic guaranteed ad trading in the digital advertising industry. Ironically, even though the digital industry prides itself to be ahead of traditional media, it has only just begun to use programmatic technology to sell guaranteed advertising inventory through so-called "automated guaranteed" products.

Also, real-time sales would only make sense if there were unsold inventory. But since there is a finite amount of TV inventory, it is nearly always sold out ahead of time. However, this will change as programmatic TV allows for more granular targeting with better data and as channels expand. Today’s TV systems allow buyers to look at TV inventory in 30-minute-segments; and in that coarse view, inventory is indeed mostly sold out. But programmatic technology will allow sellers to reduce this audience wastage by slicing that inventory more finely by audience - and then we will see that there are indeed unsold pockets of inventory, which could eventually be sold through RTB.

Yet, this would mean that both the technological infrastructure as well as the culture needed to support RTB would have to be in place. First, Media owners would have to decide that it is to their benefit to sell inventory in real time. Certain business processes would have to be adapted; for instance, under FCC rules, stations must approve ad copy before it goes live, which would create a bottleneck. Technologically, the shift to RTB would mainly translate into systems integration. Sales systems, ad servers, DMPs and attribution platforms - these are in place in many instances, but not integrated to enable RTB.

However, before the industry all-out adopts RTB, it will likely first go through a phase in which there is real-time decisioning (RTD) - the buyer decides in real time if a piece of inventory that becomes available is a good fit, in which case they would buy it - but no real-time bidding yet, i.e., the ad price would be fixed, set by the media owner.

Then there is also the issue of addressability, the ability to show a specific ad only to certain specific households (i.e., you see a different ad than your neighbor does). If RTD or RTB are to become as powerful as they are in the digital industry (or almost, since digital allows targeting single individuals, which will not possible in TV for a long time), then addressing single TV sets and the households in which they are located is a necessity. Yet while it is true that the new advanced audience data are more granular than Nielsen ratings, they do not allow targeting single households, but only audiences with certain characteristics (audience buying), i.e. sets of households within certain characteristics and in certain geographical areas.

However, some households are already directly addressable. Technologically, for traditional linear TV, where the signal is broadcast via cable or satellite to many viewers, these STBs come with a hard drive that caches the ads locally, and the STBs then insert the ads into the video stream. This approach combines the broadcast environment of linear TV with the unicast requirements of addressable advertising. Cisco and Sky jointly rolled out such a solution for the UK, called AdSmart, at this year’s CES in January. Another important manufacturer for addressable STB solutions is Invidi. In VOD, households receive a specific (non-IP) video signal anyway, which enables addressability.
Today (2015), based on an estimate by Dave Morgan, CEO and founder of SSP Simulmedia, only about 15% of U.S. households are addressable for advertising either in linear TV or VOD through either satellite or cable set-top boxes. However, next year, that share could already be as high as 30%. If that penetration rate indeed increases as quickly, then we could be looking at a 50%+ rate four years from now (2019).

This is why it will probably take 3 - 4 years before widespread real-time decisioning against certain programs or audiences will become a reality. We expect real-time bidding for unsold inventory to take hold in the 5 - 10 year time frame. Most insiders believe primary inventory (primetime pod or upfront sales) will never be bid on. But given the fact that in linear TV, demand outstrips supply, IDC believes media owners could make more money by opening up those inventory parts to bidding. We also believe that once sellers realize this, they will do so in short order. WideOrbit's auction deployments are but a foretaste of what will be possible.

WHY GO PROGRAMMATIC?

With programmatic TV, both buyers and sellers stand to win. Brands and agencies are as enthusiastic about programmatic TV, if not more so, than they are about digital programmatic. When surveyed, agency managers will typically say they estimate that a quarter of their TV ad spending will be programmatic in a couple of years (up from less than half a percent today). While this estimate is unrealistic in IDC's opinion, it does show how strongly buyers are interested in programmatic TV. And there are good reasons for that interest: PTV provides them with better targeting, access to new inventory, and a unified, easy-to-use interface which integrates and simplifies the workflow. They save time and money and improve return on investment.

For sellers, programmatic TV's main charm is its ability to increase revenues by selling inventory at higher prices, and by selling unsold or undersold inventory. PTV makes that possible by letting them, and their clients, better understand their audience through the application of advanced audience data. Secondly, PTV integrates and automates the workflow for sellers as well, saving time and money. Together with higher revenues, this translates into greater profitability.

And finally, media owners are facing a new media landscape which becomes ever more complicated and competitive. Streaming video, time-shifted viewing, video on demand, ever more cable channels and non-TV distractions such as mobile apps and games eat away at the time consumers spend watching linear TV, and will eventually also decline their numbers. This compels media owners to react with new tactics, such as MVPDs have with TV Everywhere, distributing their content online and on mobile devices as well. And yet, despite an ever more fractured audience, they still need to be able to reach viewers everywhere and thereby deliver scale. Programmatic TV makes this job easier. (See below section Changing Viewer Behavior Calls For Reinventing Television.)

Of course, there are also factors that hold TV executives back from adopting programmatic TV. Some of these factors are broadly the same as in the digital industry. One concern is that programmatic will over time commoditize and decrease the value of media owners' inventory. The fear of losing control over pricing and entrenched pricing models are additional issues. Legacy technology also presents challenges.
Finally, there is also cultural inertia, and even vested business interests, which resist embracing new ways to do business. Said one PTV vendor: "If you have a $5 billion business based on demographic guarantees, why mess with the goose that laid golden eggs for 50 years? So we have to prove [to media owners that] programmatic is a lot better than what they have now. And we will."

But there is also one major difference between the TV industry and the digital industry that may slow adoption. Digital advertising is a buyers' market: There is an essentially unlimited supply of inventory (video being the exception) that far outstrips demand. This puts a lot of competitive pressure on digital publishers to please agencies and brands - who love programmatic advertising, which in turn prompts publishers to adopt programmatic.

TV advertising on the other hand is a sellers' market: There is a limited supply of inventory, which is outstripped by demand. This puts media owners in the driver's seat. Buyers, just as is true in the digital space, want programmatic. But there is less pressure on sellers to offer it to buyers, even though the second weak upfront year in a row will make executives look to programmatic technology more readily.

On balance, we believe TV media owners will adopt programmatic as quickly, if not more so, than digital executives did. Apart from the upsides outlined above, executives also have a sense of "it's going to happen anyway, so let's figure it out and let's make sure it happens on our terms." They also know they have the benefit of seeing the programmatic blueprint in digital, which will help them avoid its pitfalls. And finally, we are now seeing a generation of managers move into positions of power at TV companies who have spent their entire careers working with and in digital advertising, and who will be more comfortable adopting programmatic technology.

**PROGRAMMATIC TV ADOPTION LEVELS**

Programmatic TV is at an early, experimental stage. Most PTV vendors' offers have only been in the market for 12 - 15 months, even though some early products have been around for some years now, albeit with tiny revenues.

All inventory is made available through marketplaces run by PTV supply-side platforms (SSPs). At this point, these are all TV specialists such as AudienceXpress, Clypd, Placemedia and WideOrbit. Buyers connect to SSPs through DSPs such as The Trade Desk, AOL's Adap.TV and TubeMogul. The amount of inventory that is available is still limited, which for now also limits what buyers can do via programmatic TV. PTV platforms can perhaps handle million-dollar-campaigns right now when many campaigns are more in the order of $10 million.

Different kinds of media owners make their inventory available at different speeds. The lion's share of PTV inventory so far is provided by multichannel video programming distributors (MVPDs), mostly in local cable TV. Most of it is sold through private marketplaces because of sellers' need to retain control over the sales process. So far, SSP marketplaces offer no broadcast inventory or anything that is sold during the upfronts. (However, SSPs are working on automating upfronts.)

Generally, the bigger the network, and the more robust their business model, the less incentive they have for embracing programmatic TV. Cable networks such as ABC, CBS, ESPN, Fox or NBC are at one end of the spectrum: these are big media companies with solid business models and billions of dollars in revenue. They have little immediate need to adopt programmatic, and potentially a lot to lose.
if PTV upsets their existing business model. At the opposite end of the spectrum are MVPDs, which have a lot of inventory to sell, but have a harder time selling it. For these companies, PTV improves life immediately. PTV will of course also make them more competitive with the big networks, which will in turn nudge those to adopt PTV as well.

That's why the first group of media owners to adopt programmatic are the cable, satellite and telecommunications "multichannel video programming distributors" (MVPDs) such as Comcast, Time Warner Cable, DIRECTV, DISH, AT&T and Verizon. MVPDs, since they are only distributors, don't have their own linear TV inventory. But they can, based on the so-called "carriage agreements" with the media owners who provide the actual content, insert ads for two minutes out of every hour.

For MVPDs, programmatic TV is a dream come true: For one, they are lower-tier networks as described above, and programmatic TV generally helps sales. Today, sales are hampered by the fact that it is so difficult to buy local advertising because between MVPDs and local broadcasters, there are so many different players and programming schedules. When we interviewed advertising agency executives, they said in unison that they had been immediately enthusiastic about programmatic TV. One said: "The local market is just so hard to buy because it is so complex. Programmatic TV will be big because it is a much more efficient way to buy."

But there's more. MVPD inventory has traditionally been considered local inventory, as it has largely only been sold to local advertisers. But with programmatic, it can now be aggregated so that national advertisers can buy it. In other words, PTV allows MVPDs to directly compete with the big networks.

MVPDs also own a lot of data on their customers. As a bonus, MVPD distribution is based on set-top boxes, which means they can, at least potentially if they don't already, target advertising at the household level. MVPD culture also helps PTV adoption. At their core, MVPDs are tech companies, other than the big networks, who are media companies first. MVPDs are familiar with technology and data, and they understand what PTV can do to help drive their business.

Because the upsides of programmatic are so obvious to MVPDs, they are fairly far along. Already, buyers can plan and purchase a national campaign based on MVPD inventory using advanced audience data through an easy-to-use interface in a matter of minutes. Even the execution of the campaign is automated, all the way from inventory orders through ad insertion to reporting. One of the pioneers is Cox Communications, which in December 2014 launched a private marketplace, based on AudienceXpress technology, in an agreement with Magna Global, and which enables Magna clients to buy inventory in twenty markets across the United States.

Somewhat behind MVPDs, but quickly following, is local broadcast TV. It is less well suited to adopting programmatic than the PVPDs because they work with tech plumbing to run their business that is sometimes decades old. It is also culturally less inclined to embrace PTV. But streamlining local advertising markets is just as much an incentive for them as it is for MVPDs (if not a stronger one), as is unlocking national markets. It will be more of a challenge for programmatic TV vendors to build an industry-wide platform for local broadcast TV than for MVPDs because there are so many different local TV schedules. "But once it has been done, local broadcasters should improve their financial performance as much or more than MVPDs," says Walt Horstman, president at AudienceXpress.
The next group of media owners that will join are the big national **cable networks** (such as ABC, CBS, ESPN, Fox and NBC). Cable network inventory is less complex than that of local broadcasters and MVPDs, so they have less of an incentive to implement programmatic. But they, too, have shown interest in programmatic TV for the first time this year, and are beginning to experiment with it.

For example, ESPN has made 30-second-ads, shown on a giant video wall on set, available programmatically. (Normal commercials are not available programmatically.) And the Weather Channel will test programmatic sales of limited amounts of inventory early next year.

At this year's upfronts, almost all cable networks announced they would make additional audience data available to buyers through partnerships with companies such as Rentrak. At this point, these additional data sets still have to be applied manually to media planning, so none of this is truly programmatic yet. But it does demonstrate that cable networks understand the core value proposition of programmatic television.

**Network broadcasters**, i.e., broadcasters with a national footprint (ABC, CBS and NBC), will perhaps adopt programmatic last and slowest. Their inventory is unique (it is broadcast to viewers, yet national, which makes it attractive to advertisers) and at the same time limited in volume. Demand will probably always far outstrip demand so that programmatic technology has little to offer to these companies.

**Changing Viewer Preferences Call For A Reinvention of Television**

The significance of Programmatic TV goes beyond just streamlining the workflow and improving targeting. That is because there is an additional dynamic changing the overall landscape of video content distribution that makes the adoption of programmatic a strategic imperative even for large cable networks.

That additional dynamic is the accelerating change in viewer behavior over the last several years. Consumers have begun replacing linear TV consumption with the consumption of streaming video. Hardly a day goes by without another news item trumpeting yet another aspect of how consumers vote with their feet, abandoning TV in favor of streaming video. "ESPN faces cord-cutting reality!" - "25% of Millennials have cancelled their cable - or satellite-subscription in the last twelve months!" - "44% of U.S. consumers are now watching Netflix online!"

There is plenty of anecdotal evidence to prove that this shift from TV to video is indeed happening. And yet, nobody has really put together what it all means. So first, let's get to the bottom of what the nature of this shift from TV is, and to what extent it is taking place.

U.S. consumers on average spent a grand total of not quite 50 billion hours a month watching video content over the past three years (*Nielsen Total Audience Reports*). Linear TV's share of those 50 billion hours declined from 93% in 2013 to 91% in 2014 to 90% in 2015 (1Q numbers, respectively). During the same time, streaming video's share grew from 2% to 4%. (The balance is made up by time-shifted viewing from DVRs, which grew from 5% to 6%, respectively.)

So to begin with, linear TV does indeed lose viewing share. But this shift is really more of a slow erosion than a landslide at this point. And the overwhelming majority of viewing time is still spent with TV, not video.

Secondly, it's important to point out that both the number of monthly TV viewers and the amount of time spent per month per TV viewer actually **increased** rather than declined until early 2014. The
number of TV viewers rose from 283 million to 285 million, the time spent from 157.5 hours to 159 hours. Only in the past year, between 1Q 2014 and 1Q 2015, both numbers have begun to decline, to 284 million viewers and 151.5 hours, respectively.

At the same time, the number of streaming video viewers has steadily increased, to roughly half the number of TV viewers. The amount of time they spend each month watching streaming video has also increased. But that amount of time is still small: Even in the first quarter of 2015, on average at least, they spent less than 15 minutes a month watching streaming video.

So until 2014, watching streaming video was an incremental activity rather than a substitutional one. Only in the past year, streaming video watching has begun to truly replace TV watching, and so far that shift takes place at a glacial pace.

Of course, the next question is: How will it go on? Since there is no significant improvement in linear TV’s offer to consumers, and streaming video’s offer is improving by leaps and bounds, there is every reason to expect that this shift will continue. What’s more, we have good reason to assume it will accelerate: If one looks at the above data by age, one sees that the numbers favoring streaming video over TV are much more dramatic in the younger age groups. So as these young demos age and replace older demos, the overall share of streaming-video-heavy viewing habits will more quickly increase.

IDC’s latest pay TV subscriber forecast shows that already, 19% of all households in the United States that do consume video content in some way do not subscribe to cable or satellite TV (i.e., are watching streaming video). By 2019, IDC expects that number to climb to 26%. Some back-of-the-envelope math shows that within a decade, 35-40% of U.S. households could be watching video without having a cable or satellite subscription (see U.S. Multichannel Pay TV Subscriber 2015-2019 Forecast, IDC #255945, May 2015. See Figure 7 below).
TV will continue to lose viewing time share to streaming video as viewers spend less time on watching TV, and more time on watching streaming video and time-shifted video, and on using mobile apps. Given the above subscriber forecast, we also expect the number of TV viewers to decline, which will accelerate TV’s loss of viewing time share. Certain disruptive events could accelerate this development: For instance, Apple could enter the market with its own streaming video service that could deliver video via set-top boxes - this would surely speed viewer defection to streaming video.

On the other hand, TV is not going away any time soon. TV is going to be the most important advertising medium for a long time. At some point, the slow, incremental, quantitative shift from TV to video may accelerate to a landslide or qualitative shift, but that singularity is certainly at least a decade away.

Buyers Find They Can’t Do Without TV Also, That They Can’t Do Without Video

Buyers are agnostic about what channels they have to use to reach their audience. Whatever channel will reach it, they will use. When they look at the new media landscape created by the TV-video-shift, they find, one, that they can’t do without television: As we have outlined above, no other medium, including streaming video, can offer the massive audience reach TV can. No other medium can offer the effectiveness of advertising on TV, either. A recent study commissioned by Turner Broadcasting and media services agency Horizon Media, and conducted by attribution company MarketShare, found that linear TV, at similar spending levels, on average provides four times the lift other media do on key performance indicators (KPI) such as sales and new accounts. (It also found that the most effective campaigns are cross-media campaigns utilizing both TV and digital.)

But buyers also find that, two, they can’t do without video, either. If they want to reach the same audience they before reached on TV alone, they now have to spread out budgets to also cover streaming video. This is especially true if they are trying to reach the young demographics and those
on the coasts or the big cities, all of which are farther along the process of adopting streaming video than the average. One ad agency executive told us: "Try finding 18-24-year-old males on linear TV, and you will be challenged." Video also presents advertisers with a new channel with targeting and reporting capabilities far superior to those of linear TV.

As a result, the industry has seen a steady increase of the market share of video ads in the past while TV's remained essentially unchanged. For the future, video will continue to gain while TV will remain steady (IDC Digital Advertising Market Model (DAMM) 2Q-2015, see Figure 8 below). But beyond the 5-year-forecast horizon, things may look different: As TV viewer numbers and average TV viewing time per viewer continue to dwindle, TV advertising may begin to lose market share to video.

**FIGURE 8**

U.S. TV and Video Advertising Spending Shares Of Overall Advertising

![Graph showing U.S. TV and Video Advertising Spending Shares Of Overall Advertising](image)

Note: Digital video advertising includes online and mobile ads.

**For Media Owners, There Is No Future In Which There Is No Programmatic**

In some ways, over the next five to ten years, media owners will be presented with challenges similar to those publishers in print have confronted over the past decade. Sellers face a new media landscape that is quickly changing and becoming more complex. Consumers are changing their viewing habits, and the number of potential sources for video content from which they can choose proliferates, from an ever increasing number of cable channels to time-shifted viewing to streaming video to multiple screens. And as buyers branch out into video to follow those eyeballs, not only will they be drawing on
TV budgets, they are also getting a taste for video's superior targeting and reporting capabilities, which TV cannot yet match.

Despite the still towering might of linear television, TV executives cannot afford to hit the snooze button on programmatic. Video will continue to erode the TV market and change advertiser expectations. TV must reinvent itself to remain competitive in a rapidly evolving media ecosystem. Programmatic is the only way TV companies will be able to keep linear TV advertising competitive with digital video advertising.

Amazon, AOL, Crackle, Google/YouTube, Hulu, Netflix, Vimeo and Yahoo! all produce their own original shows now. Some of those shows are the best TV we have seen in years. In response, TV networks have begun to use over the top (OTT) distribution for their content themselves. Programmatic technology will help selling and serving ads against their own digital video inventory. Some pioneers have made their first, if cautious, forays into programmatic digital video ads: ABC (in July 2014, in co-operation with FreeWheel and Magna Global), NBC (it launched its new programmatic brand NBCUx in summer 2014) and E.W. Scripps Company. Eventually, programmatic technology will also help selling and serving ads across linear TV and digital video, which is something buyers already want, but can't yet get.

Only by taking advantage of programmatic TV's automation, advanced audience data and, eventually, auctions and even RTB for selling inventory will media owners remain competitive.

**FUTURE OUTLOOK**

I am convinced that there is no path forward for TV that does not include the large-scale application of programmatic technology. The rapid evolution of the media ecosystem brought upon by the beginning shift from linear TV to streaming video spells out a future for which TV must reinvent itself to remain competitive. Even though consumers' and advertisers' transition to streaming video from linear TV is in its earliest stages, media owners need programmatic technology's help to sell their inventory in the digital space, to better compete with the growing threat from digital-native companies such as Netflix and Amazon, and to offer a better advertising product to buyers who have become used to programmatic videos' superior targeting and reporting capabilities.

Beyond our current forecast horizon of 2019, we will quickly see PTV outspending digital programmatic advertising. This will shift the mentality of the programmatic segment at large. Today's programmatic industry is a digital one; it understands itself as a part of digital advertising, digital media, high technology and the culture of Silicon Valley. It is culture of mavericks, a culture of continuous innovation, a culture of taboo breakers. But as an ever-greater share of programmatic takes place in linear TV, and by that token, in the traditional media industry, what will that mean for that culture? Will traditional media tame digital, or will digital turn traditional media upside down?

**CHALLENGES/OPPORTUNITIES**

The application of programmatic technology to TV advertising presents buyers and sellers with unique opportunities:

- Sellers, i.e., media owners, improve sales by improving inventory quality by applying advanced audience data, by exposing inventory to more buyers via SSPs, through selling
unsold inventory, and unlocking undersold inventory Sellers will also reduce costs through automation. Local cable and broadcasters have the chance to unlock the national market through the use of PTV. Ultimately, PTV will make them more competitive within the linear TV industry and within the digital media industry as well.

- Buyers, i.e., marketers and agencies, by using PTV, get better targeting, access to new inventory, and a unified, easy-to-use interface which integrates and simplifies the workflow. They save time and money and improve return on investment.
- Vendors stand to gain by providing the infrastructure. This goes primarily for SSPs and data providers, but also for DSPs.

The challenges to PTVs implementation all surface on the sell side:

- Sellers' fears of a commoditization of their inventory and products, and losing control over the sales process, which would possibly undermine their traditional business model, need to be addressed by providing them very high levels of control and transparency from the start.
- Legacy technologies present implementation challenges that could prove to be an adoption bottleneck. Cultural inertia and business interests vested in traditional TV business models may also pose a problem.

**CONCLUSION**

Programmatic TV advertising technology will be rapidly adopted. In the U.S., the share of programmatic TV advertising of total spending on TV advertising will grow from barely one tenth of one percent in 2014 to 13% in 2019. Spending on programmatic TV will grow from $50 million in 2014 by a compound annual growth rate (CAGR) of 197% to $11.4 billion in 2019.

"Consumers and advertisers are beginning to shift from linear TV to streaming video", said Karsten Weide, IDC's VP of Media and Entertainment. "TV must reinvent itself using programmatic to be ready for the challenges of this new media landscape."

**DEFINITIONS**

- **Advertising inventory**: Placements in video streams in which commercials can be run, and which can be sold to buyers.
- **Buyers**: Advertisers or agencies who purchase advertising inventory.
- **Cable networks**: TV content producers who distribute their content through cable operator's systems and sell advertising against it.
- **Digital video recorder (DVR)**: Set-top box which can record and play back live television.
- **Digital**: Internet-based, including online and mobile platforms.
- **Direct sales**: The direct sale of inventory by the media owner to the buyer
- **Guaranteed sales**: The sale of advertising inventory in which the buyer pays for the inventory up front and in which the seller guarantees the delivery of a certain amount of inventory with certain characteristics at a certain point of time in the future (Guaranteed sales is also called "reserved inventory," "premium," "tier 1," or "up front" sales.)
- **Indirect sales**: The sale of inventory by the publisher to the buyer via one or more middlemen (SSP, DSP, ad exchange, ad network)
- **Linear TV**: traditional, live TV that is distributed via cable, satellite and broadcast.
- **Media owners, sellers**: companies which own advertising inventory and sell it.
- **Multichannel Video Program Distributors (MVPDs)**: cable, satellite and telecommunications operators who distribute video content and also own some advertising inventory.
- **Non-guaranteed sales**: The sale of advertising inventory that went unsold direct sales, the delivery of which the seller does not guarantee in advance. (Non-guaranteed sales is also called "unreserved," "tier 2," "remnant," or "indirect" sales.)
- **Private marketplace (PMP)**: The sale of non-guaranteed inventory by the seller to invited potential buyers in a private marketplace using an auction based on a real-time bidding software platform, in which impressions are bought and sold as they become available on a user's device; employed by sellers and buyers that want more control over the sale/purchase than an open RTB marketplace offers (The term private marketplace also contains so-called preferred deals, in which one-to-one sales of unreserved inventory at a fixed price take place. PMP is also called invitation-only auction, private auction, closed auction, and private access.)
- **Programmatic direct**: the direct programmatic sale of inventory by the media owner to the buyer, i.e., the inventory is not bought and resold by a middleman.
- **Programmatic guaranteed**: The automated sale of guaranteed inventory using any kind of programmatic technology (Programmatic guaranteed is made up of automated guaranteed and forward markets.)
- **Programmatic TV advertising (PTV)** stands for the use of software platforms to automate the workflow of TV advertising and to improve the effectiveness of TV advertising through the use of advanced audience data. Platforms must have an API to be able to connect other systems such as ad servers and DMPs. Platforms need not support auction- or RTB-based trading to qualify as PTV platforms. PTV mainly refers to advertising to linear TV. It also includes video on demand (VOD) distributed by cable network and satellite operators and time-shifted viewing of TV content from digital video recorders (DVRs), even though these applications stand much less in the limelight than linear TV.
- **Real-time bidding (RTB)**: The sale of non-guaranteed inventory by the seller to many potential buyers in an open marketplace using an auction based on a real-time bidding software platform, in which impressions are bought and sold as they become available on a user's device (RTB is also called open auction, open exchange, open marketplace, and open RTB.)
- **Set-top boxes (STB)**: cable and satellite boxes, streaming video boxes, DVRs and game consoles which allow to watch streaming video on a linear TV set.
- **Streaming video, digital video, over-the-top (OTT) video**: video content which is distributed via the public Internet and which is "streamed", i.e., is downloaded progressively as the viewer watches the video.
- **Time-shifted viewing**: the viewing of video which has been recorded live (usually on a DVR) but is only watched at a later point in time.
- **TV Everywhere (TVE)**: Offers developed by MVPDs so that their customers can not only watch their content through a linear TV connection, but also via the Internet on PCs, mobile devices, through set-top boxes and smart TVs.
- **Video on demand (VOD):** content distributed to the viewer through a linear TV connection when they demand it, i.e., not live television.

**About IDC**

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world’s leading technology media, research, and events company.

**Global Headquarters**

5 Speen Street  
Framingham, MA 01701  
USA  
508.872.8200  
Twitter: @IDC  
idc-insights-community.com  
www.idc.com

---

**Copyright Notice**

This IDC research document was published as part of an IDC continuous intelligence service, providing written research, analyst interactions, telebriefings, and conferences. Visit www.idc.com to learn more about IDC subscription and consulting services. To view a list of IDC offices worldwide, visit www.idc.com/offices. Please contact the IDC Hotline at 800.343.4952, ext. 7988 (or +1.508.988.7988) or sales@idc.com for information on applying the price of this document toward the purchase of an IDC service or for information on additional copies or Web rights.

Copyright 2015 IDC. Reproduction is forbidden unless authorized. All rights reserved.