

## Due Diligence and Valuation Report

Arrowhead Code: 81-01-01  
Coverage initiated: 05 July 2018  
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Fair share value bracket-DCF: R 15.93 and R 20.69  
Share price (05 July 18): R 15.58

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### Market Data

52-Week Range:	R 10.70– R 19.97 <sup>i</sup>
Average Daily Volume (3M Avg.):	447,569 <sup>ii</sup>
Market Cap (05 July 2018):	R 5,796 MM

### Financial Forecast (in R) (FY Ending – Feb.)

R Millions	'19E	'20E	'21E	'22E	'23E	'24E
High NI	236	506	652	825	1,021	1,229
High EPS	0.64	1.37	1.76	2.23	2.76	3.32
Low NI	105	368	496	649	822	1,004
Low EPS	0.28	0.99	1.34	1.75	2.22	2.71

**Company Overview:** Founded in 1965, Altron has a direct presence in South Africa, the rest of Africa, the UK and Australia through its various businesses. In addition, the group's strategic partnerships with leading international technology companies gives it access to leading technology capabilities and products from across the world, including Asia, Europe and North America. The majority of the groups revenue and headcount are derived from the local market in South Africa where the group is headquartered. The Altron group employs more than 8 000 employees globally. The group's primary focus is in providing innovative solutions in the fintech, healthtech, safety & security, and learning and development verticals.

**2018 results:** Altron's revenue increased about 14% to R 14.7 billion in 2018 compared to R 12.9 billion in 2017 from continuing operations. In 2018, EBITDA grew by 19% to R 1.1 billion in 2018 from R 0.9 billion in 2017. Normalized ROCE from continuing operations stood at 21% in 2018. Net debt largely remained flat at R 1.9 billion compared to the prior year. Cash from operations totaled R 1.2 billion for the year. Net working capital increased by R 298 million and included the City of Tshwane debtor in Altech Radio Holdings and the impact of acquisitions.



Company: Altron  
Ticker: AEL  
Headquarters: Johannesburg, South Africa  
Chairman: MJ (Mike) Leeming  
CEO: M (MTETO) Nyati  
CFO: TIM JACOBS  
Website: [www.altron.com](http://www.altron.com)

Arrowhead is initiating coverage on Altron with a fair value bracket of R 15.93 in the low bracket and R 20.69 in the high bracket scenario using the Discounted Cash Flow (DCF) Valuation Method.

**Key Highlights:** **(1)** Headquartered in Johannesburg, Altron mainly operates into telecommunications and information technology through its subsidiaries. **(2)** Altron has been undergoing significant restructuring over the past year to reposition itself for growth in the ICT sector; in-line the company has made considerable progress whereby it has reduced its exposure to manufacturing sector, lowered debt levels and divested its non-core assets. **(3)** In 2018, revenue from continuing operations grew by 14% to R 14.7 billion while EBITDA increased by 19% to R 1.1 billion **(4)** EBITDA for discontinued operations in 2018 improved to a profit of R 8 million compared to previous year's loss of R 110 million; whereas after tax loss improved significantly from R 717 million to R 253 million because of better operational performance. **(5)** The BOD has considered the dividend policy and intends to adopt 2.5 times from August 2018. **(6)** The company acquired Phoenix Software for GBP 35.9 million at an EBITDA multiple of 7x. **(7)** The group invested R 970 million in investment activities which were primarily funded out of internally generated cash. **(8)** Company used R 160 million in financing activities which was mainly because of the R 400 million equity received from Value Capital Partners and repayment of term loans of R 627 million. **(9)** In February 2018, Altech Radio Holdings (ARH) was appointed by the Limpopo Provincial Government for establishing secure and open access broadband network across the province.

**Key Risks:** (a) Company is highly leveraged as total debt stood at more than 100% of its total capital, despite paying off 42% of its debt in the last fiscal year (b) High revenue concentration where Altron derived 71% of its revenue from South Africa during 2018.

**Valuation and Assumptions<sup>iii</sup>** Given the due diligence and valuation estimates, Arrowhead believes that Altron's fair share value lies in the R 15.93 to R 20.69 bracket calculated using the DCF method.

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## 1. Summary and Outlook

We are initiating coverage on Altron. The Company, headquartered in Johannesburg, South Africa, specializes in providing IT solutions such as Managed Services, Cloud Services and Cloud Enablement. The Company's fair value is R 15.93 in the low bracket scenario and R 20.69 in the high bracket scenario (DCF Valuation Method).

### Key Highlights<sup>iv</sup>:

- 1) JSE listed Altron operates through its subsidiaries into telecommunications and information technology. Founded in 1965, the company provides range of services such as voice, data, digital radio communication, software solutions, secure transactional solutions etc.
- 2) Revenue from continuing operations grew by 14% to R 14.7 billion, while EBITDA increased by 19% to R 1.1 billion on a normalized and constant currency basis. EBITDA margins increased to 7.6% in 2018 in comparison 7.3% in 2017. Net Debt of R 1.9 billion remained constant compared to prior year. Cash generated from operations totaled R 1.2 billion for the year 2018.
- 3) EBITDA for discontinued operations in the current year improved to a profit of R 8 million compared to a previous year's loss of R 110 million. Also, after tax loss improved significantly from R 717 million to R 253 million which is mainly because of improved operational performance and reduced interest expense
- 4) The board of directors have considered the dividend policy and intend adopting a 2.5 times cover going forward. Also, an interim dividend will be declared for the period ending August 31, 2018.
- 5) The group invested R 970 million in investment activities which were primarily funded out of internally generated cash. This amount includes R 698 million relating to the acquisition of Phoenix Software and EZY2C.
- 6) Acquired UK's Phoenix Software for R 650 million in late 2017 through its subsidiary Bytes UK; Phoenix Software specializes in end-to-end IT infrastructure solutions and is expected to bolster Bytes UK's presence in the value-added reseller segment, particularly with respect to adding additional Microsoft capabilities to the group.
- 7) R 160 million of cash was utilized in financing activities mainly because of the R 400 million equity received from Value Capital Partners and the repayment of term loans of R 627 million.
- 8) In H1 2018, company earned R 6.8 billion as revenue in comparison to R 7.5 billion of H1 2017. There was a decline of 10% in the top line for continuing operations in H1 2018. EBITDA for H1 2018 increased by 2% from R 445 million of H1 2017 to R 452 million of H1 2018. Net Borrowings for H1 2018 stood at R 1.834 billion from R 2.0 billion of H1 2017.
- 9) In February 2018, the Limpopo Provincial Government appointed Altech Radio Holdings (ARH) for establishing secure and open access broadband network across the province. The contract is valued R 585 million and in phase 1 of the project ICT connectivity would be provided to government departments, municipalities, businesses and households across the province over a three-year period.
- 10) Altron made an announcement that it has reached an agreement to sell of its 80% interest in Powertech Transformers Proprietary Limited (Powertech Transformers) to a B-BBEE consortium comprising of Europe's number one medium-sized manufacturer of transformers SGB-SMIT and local black owned Power Matla Group.
- 11) Altron and Tango Telecom formed a partnership to launch Data Retail Engine (Tango DRETM) in Africa. This program will enable African mobile operators to quickly launch and monetize new innovative digital services that drive consistent consumer spending on data throughout the subscriber life cycle.

**Key risks:** a) Company is highly leverage as total debt stood at more than 100% of its total capital, despite paying off 42% of its debt in the last fiscal year b) High revenue concentration where Altron derived 71% of its revenue from South Africa during 2018.

**2. Business Overview<sup>v</sup>**

South African listed Allied Electronics Corporation Limited (Altron) is invested in telecommunications and information technology, offering ICT services in the areas of cybersecurity, software security solutions, business process outsourcing, skills development, secure transactional solutions, systems integration, cloud computing, managed services, IT infrastructure, electronic component distribution, fleet management, telematics, data analytics, converged and broadband communication services and networks, and the resale of Microsoft software.

The group’s primary focus is in providing innovative solutions in the fintech, healthtech, safety & security, and learning and development verticals that have a meaningful impact on society by addressing challenges facing communities in South Africa, the continent and beyond, while delivering shared value for all its stakeholders.

Founded in 1965, Altron has a direct presence in South Africa, the rest of Africa, the UK and Australia through its various businesses. In addition, the group’s strategic partnerships with leading international technology companies gives it access to leading technology capabilities and products from across the world, including Asia, Europe and North America. The majority of the groups revenue and headcount are derived from the local market in South Africa where the group is headquartered. The Altron group employs more than 8,000 employees globally

**Exhibit 1: ICT to drive growth<sup>vi</sup>**

Our purpose is delivering innovation that matters, to address challenges particularly in these areas:



**FINTECH**



**HEALTHTECH**



**SAFETY & SECURITY**



**LEARNING & DEVELOPMENT**

WHAT WE DO

We are invested in telecommunication and information technology solutions through our operations:

• Altech Radio Holdings (ARH)	• Altech Card Services (ACS)	• Bytes Systems Integration	• MediSwitch
• Altech Netstar	• NuPay	• Bytes Managed Solutions	• Med-e-Mass
• Arrow Altech Distribution	• Bytes Document Solutions	• Bytes People Solutions	• Bytes Technology Group UK











Altron’s business model is evolving more towards annuity-based business and revolves around four value drivers which drives the business strategy and performance i.e. financial sustainability, human capital, products and services and external relationships.

**2.1 Corporate Structure**

Altron has been undergoing a restructuring process over the past two years to streamline its operations and refine its businesses to create One Altron. Driven by its aims to become of the leading technology solutions provider in South Africa and on the African continent, Altron has worked towards removing silos, revitalized its business groups and transformed the value which it adds to its customers. Under the new structure, its focus division – Telecommunications and Information technology, are placed to deliver seamless and end-to-end solutions to customers and clients.



As a part of the restructuring, the company’s core businesses were grouped under Altron TMT in 2016 and organized into three business divisions – telecommunications, multimedia and electronics and information technology.

**2.2 Products and Services:**

As a part of the restructuring, the company’s core businesses were grouped under Altron TMT in 2016 and organized into three business divisions – telecommunications, multimedia and electronics and information technology.

**Exhibit 3: Business Divisions<sup>viii</sup>**

**Telecommunications:** offers communications services ranging from voice, data and video to digital radio communication networks and internet services.

**Multimedia and electronics:** assembles various products and distributes electronic components, products and solutions.

**Information technology:** provides services including specialised software solutions and secure transactional solutions for the financial, retail and healthcare industries, as well as complete outsource solutions for IT and communication infrastructure.

**2.2.1 Altron TMT: Telecommunications**

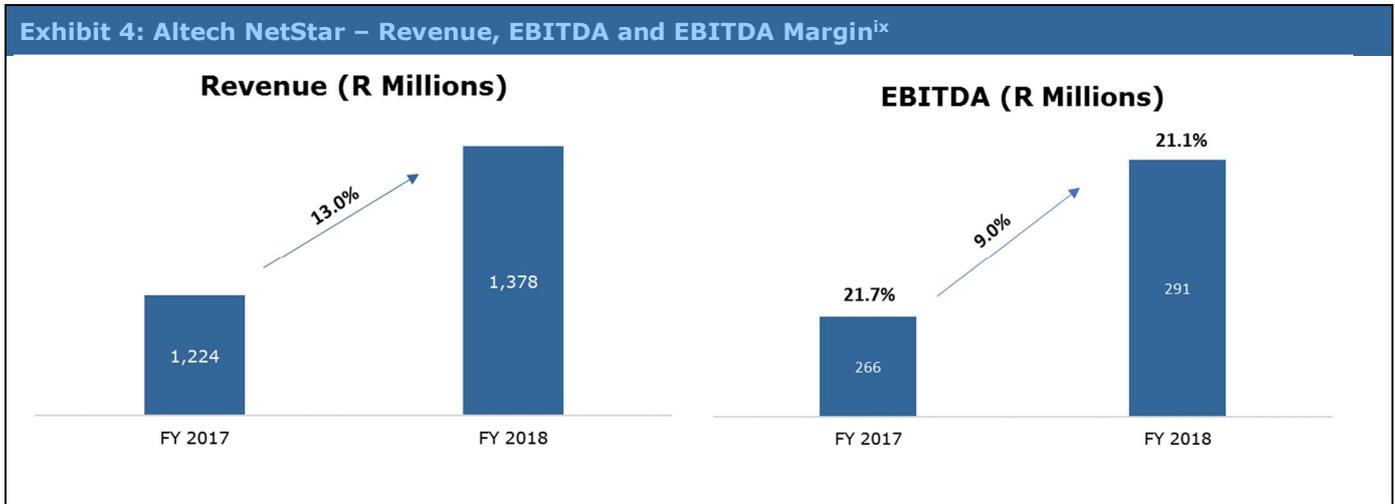
Altron TMT comprises of Altech and Bytes, businesses that span across the telecommunications, multi-media and IT (TMT) sectors. Altron TMT is the largest privately owned converged solution provider in Africa and is driven by a strong focus on providing customers with value-added products, specialized services, support and solutions through the convergence of TMT. The company’s key subsidiaries in the TMT division include Altech Netstar, Bytes Systems Integration and Altech Radio Holdings.

**2.2.1.1 Altech Netstar**

Altech Netstar solutions are focused on traffic management, vehicle tracking, fleet management and telematics.

- Under traffic management, Altech Netstar provides intelligent, real time traffic flow information and journey times to motor vehicle manufacturers and motoring public of South Africa in a variety of applications such as in-vehicle systems, portable navigation devices and mobile phones.
- In the vehicle tracking, fleet management and telematics space, Altech Netstar is a leader in providing specialist vehicle tracking and recovery systems, fleet management services and usage-based telematics to prevent misuse of company fleet vehicles to reduce costs per kilometer, monitor driver behavior and increase security and safety of drivers.

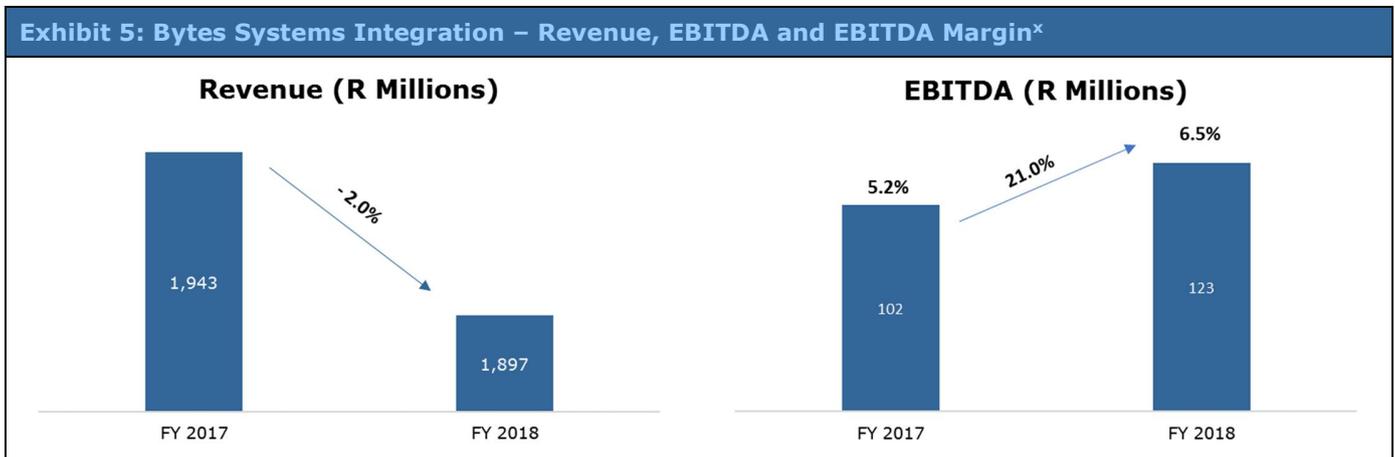
In 2018, led by continued improvements in performance Altech NetStar recorded strong growth in revenue and EBITDA and EBITDA margin. Improved subscriber growth, mainly in stolen vehicle recovery combined with churn and retentions under control were the key growth drivers. The company’s growth strategy is to focus on increasing market share in telematics and fleet management. It is also evaluating alternative routes to market such as direct sales to vehicle manufacturers and insurers.



**2.2.1.2 Bytes Systems Integration**

Focused on managed services, Bytes Systems Integration provides management and control of business-critical applications such as email and groupware, firewalling, virus and spam detection and data backup and archiving. It provides full range of IT infrastructural services.

During 2018, although the revenue remained largely flat, the subsidiary’s EBITDA margin improved more than 100 bps to 6.5% from 5.2% in 2017 benefitting from integration gains of BSI and BUS. It plans to further improve its margin by focusing on high growth areas and reducing overhead costs. The subsidiary’s strategy also includes refining the operating model through streamlining of the business.



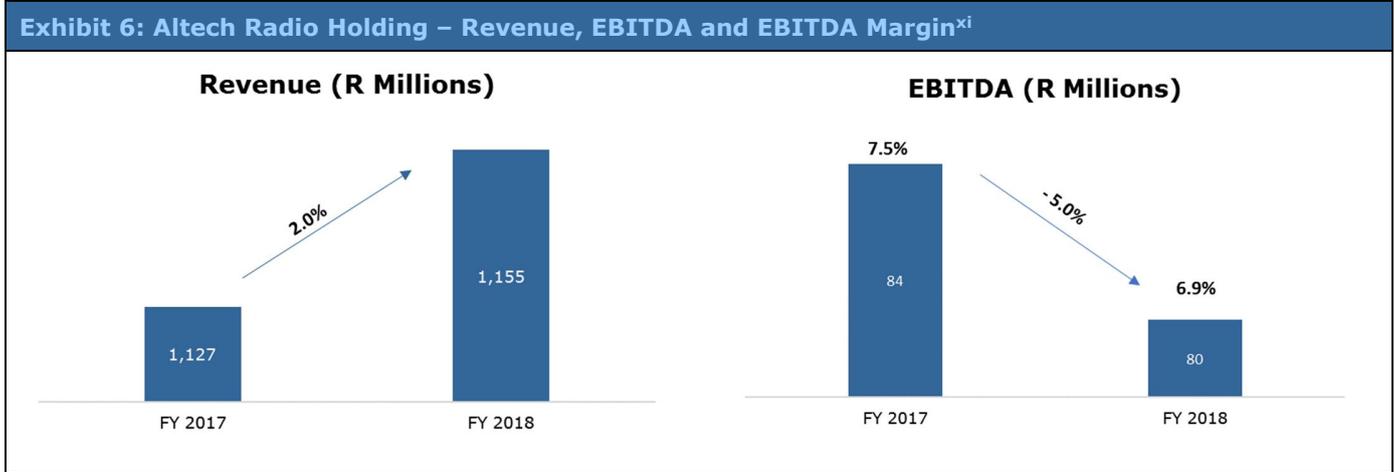
**2.2.1.3 Altech Radio Holding**

Focused on digital radio communication, Altech Radio Holdings is the holding company for three operating companies in Altech – Altech Alcom Radio Distributors, Altech Alcom Matomo and Altech Fleetcall ARH. It provides a variety of converged telecommunication services ranging from two-way radio communicator networks to licensed radio trunking networks to various industries.

During 2018, challenging trading conditions resulted in an almost flat top-line, while EBITDA decreased by 5% YoY to R 80 million. The company’s strategy to improve performance is mainly focused towards,

- Winning and delivering on current opportunities presented by broadband

- Evolving into the preferred safe city solution provider for the smart city evolution
- Start building similar competencies in selected markets within rest of Africa



### 2.2.2 Altron TMT: Information Technology

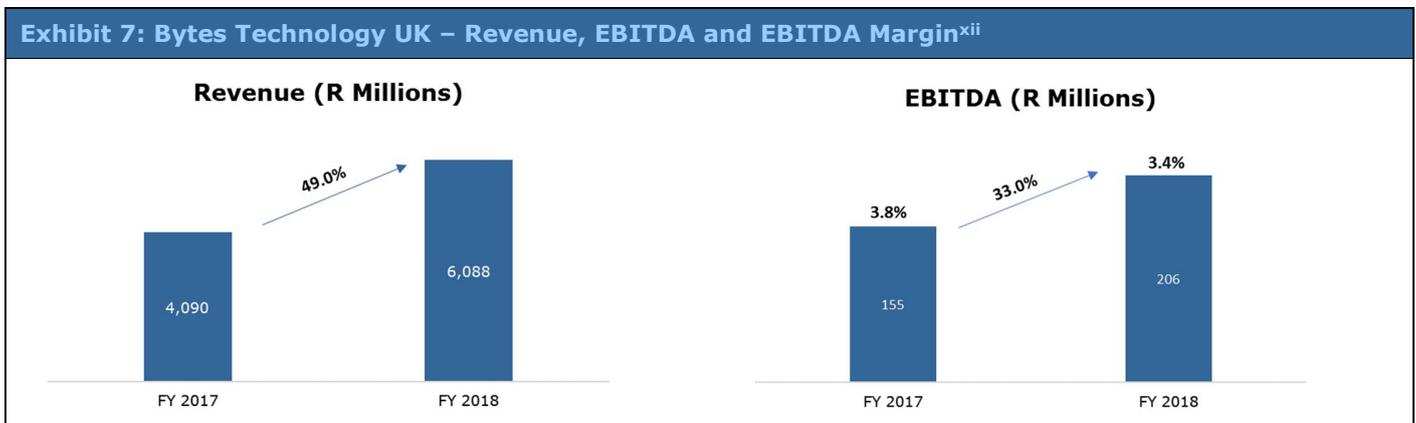
Altron’s IT division provides services such as specialized software solutions and secure transactional solutions for the financial, retail and healthcare industries. In addition to this, it also offers complete outsource solutions for IT and communication infrastructure to facilitate business processes.

#### 2.2.2.1 Bytes UK

Bytes Technology Group UK provides Software Security Solutions, Software Licensing, Office Automation, Production Print, Managed Print Services, and Document Management Software. Bytes UK incorporates three specialist divisions:

- **Software Licensing:** Possess strong working relationships with all major vendors, including Microsoft, Adobe, Citrix, Oracle, Symantec and VMware
- **Security Services:** Offers a wide-ranging portfolio of IT connectivity, data security, email and web communications, governance, security risk, and IT compliance solutions
- **Document Solutions:** Specializes in managed print services, business solutions and marketing communication solutions

Bytes Technology UK recorded remarkable 49% YoY revenue growth in 2018 to R 5.2 billion from R 4.1 billion in 2017 driven by strong positive impact of the Phoenix acquisition i.e. 19% of the revenue growth and overall strong UK performance.

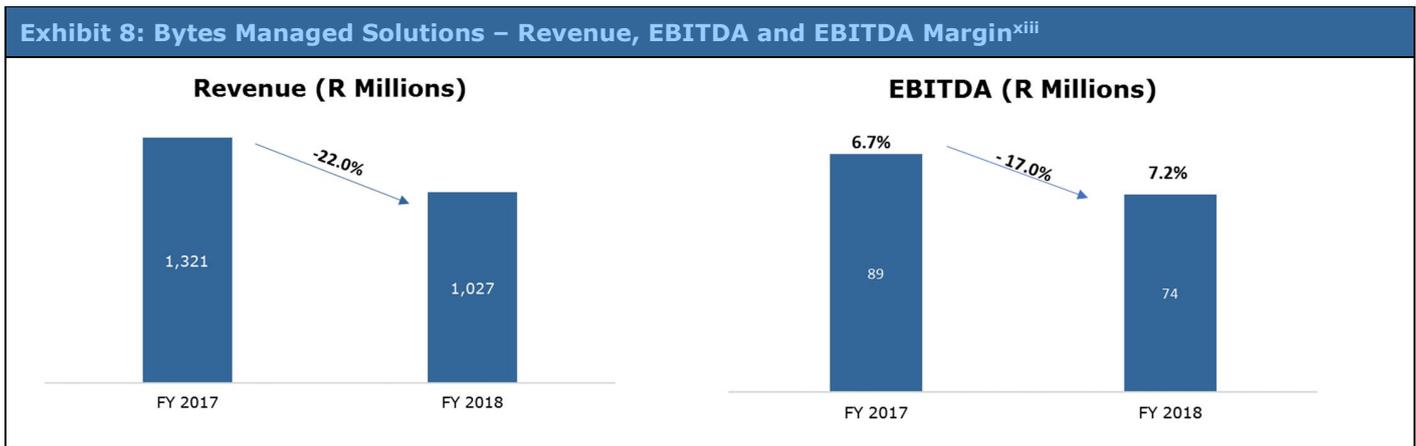


One of the core focus growth areas, the company’s strategy going forward includes,

- Focus on the cloud and cloud migration
- Cross selling into 5 000 accounts within the UK
- Acquire strategic businesses
- Use SA IP to promote additional appropriate solution sets into our UK customers

**2.2.2.2 Managed Solutions**

Bytes Managed Solutions is involved in supporting and maintaining enterprise-wide information products and services such as servers, desktops and laptops, point of sales (POS) and ATM dynamic solutions, warranty and incident management, availability management and project management.



In 2018, the subsidiary recorded a 22% drop in its revenue to R 1,027 million from R 1,321 million in 2017. EBITDA mirrored the trend to decline 17% at R 74 million from R 89 million in 2017. The company has outlined a roadmap to improve performance in this segment through the below mentioned strategies,

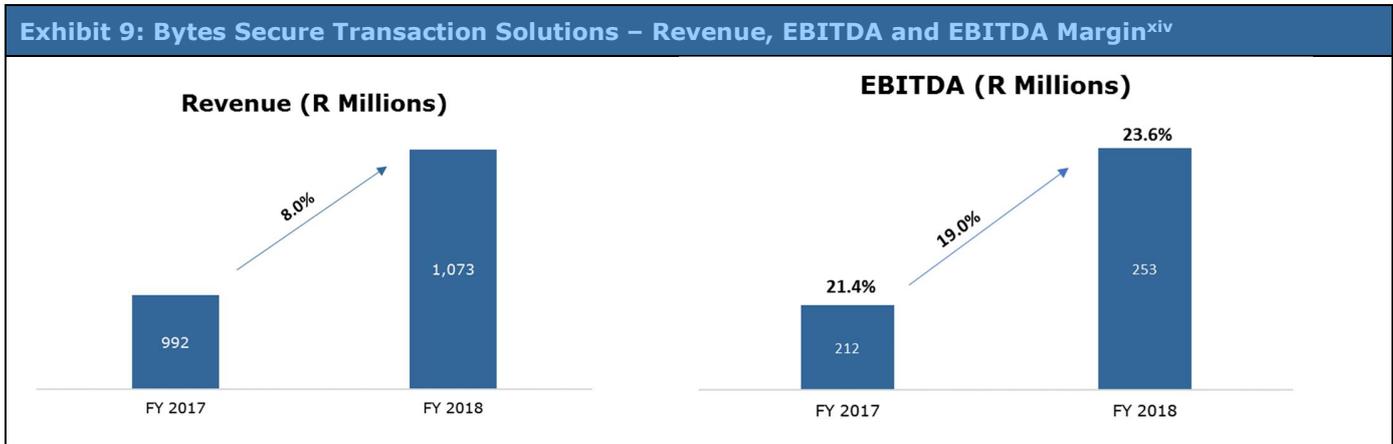
- Convert the traditional retail sector with new technologies such as self-service checkout
- Expand managed services to incorporate the Internet-of Things (IoT)
- Currently launching cloud-based retail solutions for the hospitality and restaurant sector

**2.2.2.3 Bytes Secure Transaction Solutions**

Bytes Secure Transaction Solutions is involved in providing managed electronic payment solutions including mobile or online platforms, and e-wallet and medical transaction switching.

In 2018, the subsidiary recorded increase in revenue and EBITDA led by strong growth in the FinTech space with exceptional growth in the NuPay environment. The company’s strategy to further enhance growth in this segment includes,

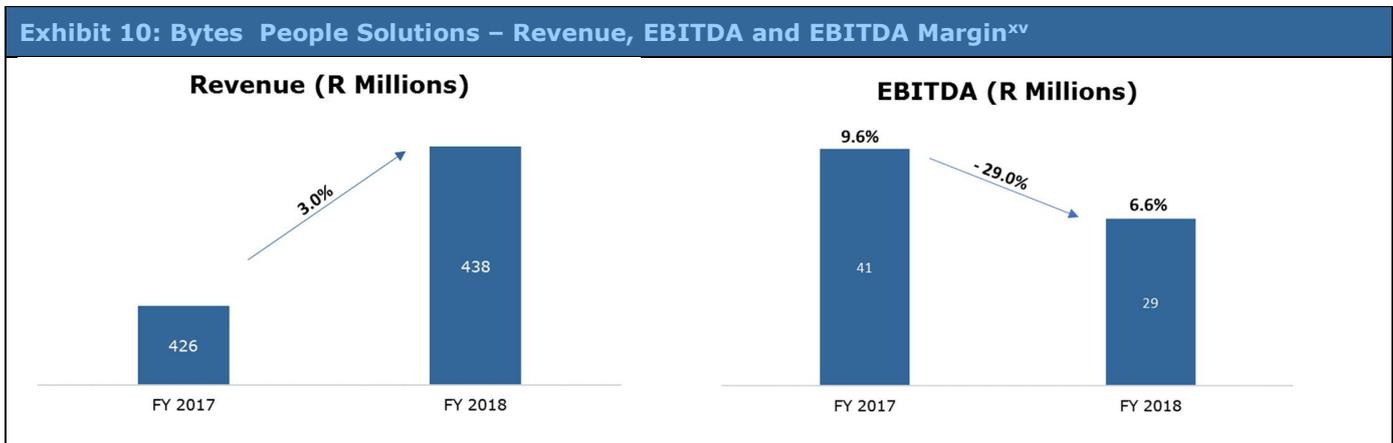
- HealthTech: Continue to grow eco systems and platforms to deliver higher value services to health care professionals as well as public health sector
- FinTech: Evolve new product offerings into the unbanked environment, which offers significant growth opportunity
- CyberTech: Has built a technology centre to provide security for customer networks



**2.2.2.4 People Consulting**

Bytes People Solutions offers talent management services including assessment centers, content development, ICT learning solutions, online technologies and soft skills development.

During 2018, Bytes People Solutions subsidiary primarily focused on outbound sales campaigns. Its growth strategies include broadening skills development offering beyond ICT sector training and drive efficiencies in BPO environment by focusing on enabling technologies such as robotic processes and multi-channels. In 2018, it recorded marginal increase in revenue at 3% YoY to R 438 million, whereas EBITDA declined 29% YoY to R 29 million.

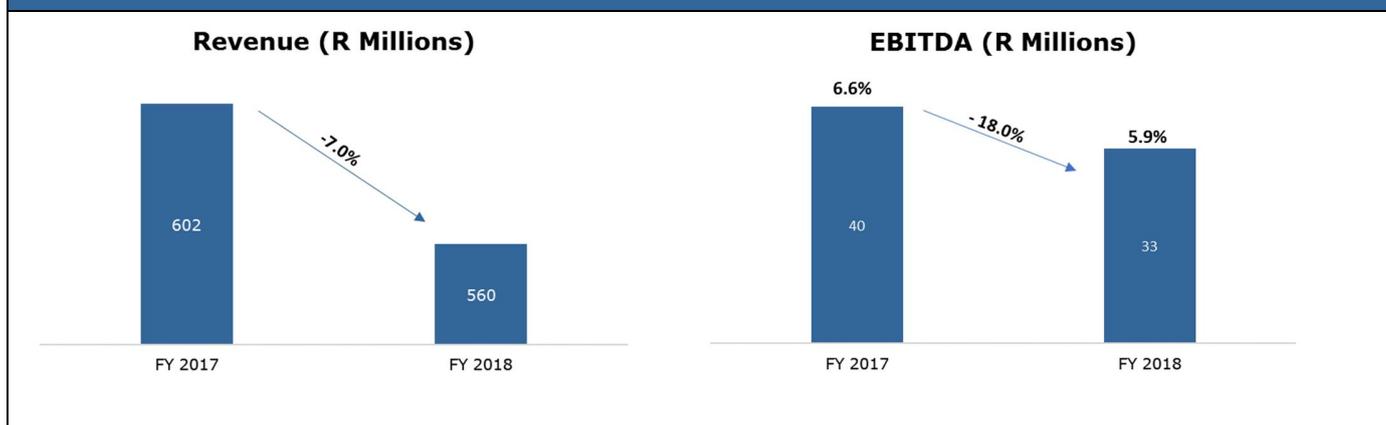


**2.2.3 Altron TMT: Multimedia and Electronics**

Altron’s multimedia and electronics division under its restructuring program has divested most of its assets and presently comprises of business from Arrow Altech Distribution, a joint venture between Altron and Arrow Electronics Inc. Arrow Altech Distribution is the leading distributor of electronic components in Sub-Saharan Africa comprising of components such as batteries and solar, lighting and optics, software and compilers, and semiconductors and aerospace products.

In 2018, slowdown in the defense industry has resulted in a decrease in revenue and operating profit for the distribution business. The company’s plan to improve performance in this segment revolves around driving e-commerce business, building a strong order book and focusing on new lines of business i.e. its Arrow Intelligent Systems Division and Sustainable Technology ICT Division.

**Exhibit 11: Arrow Altech Distribution – Revenue, EBITDA and EBITDA Margin<sup>xvi</sup>**



## 2.3 Company Milestones

<b>Exhibit 12: Altron Milestones<sup>xvii</sup></b>	
<b>Year</b>	<b>Event</b>
<b>1965</b>	<ul style="list-style-type: none"> <li>Incorporated under the name Allied Electric</li> <li>Company began business as a designer and manufacturer of semi-conductor rectifier equipment, battery chargers, inverters, variable speed drives, DC motor controls, DC power supplies, electronic signal equipment and transformers.</li> </ul>
<b>1974- 79</b>	<ul style="list-style-type: none"> <li>In 1974, Altech becomes holding company after acquiring STC (UK) from ITT Corporation (USA)</li> <li>In 1975, Altech got listed on Johannesburg Stock Exchange</li> </ul>
<b>1979- 80</b>	<ul style="list-style-type: none"> <li>Allied Electronics Corporation (Altron) was created as a new holding company and Altech was positioned as its telecommunications subsidiary and Powertech as the power electronics subsidiary</li> <li>In 1979, Powertech got listed on the Johannesburg Stock Exchange</li> <li>Powertech acquired Willard Battery Group from the ESB Group (USA)</li> <li>Powertech acquired Litemaster and Crabtree Electric</li> </ul>
<b>1981- 85</b>	<ul style="list-style-type: none"> <li>Ventron Corporation was created as a holding company by the board to control Altron, Altech, Powertech and Fintech companies</li> <li>Altron acquired 90% of Lascon Lighting Industries through Powertech in 1982</li> <li>Powertech acquired former Swedish-owned ASEA Electric</li> <li>In 1984, Powertech acquired Scottish cables from BICC</li> <li>In 1985, Altron's revenue reached R 320 million with a market capitalization of R 358 million</li> </ul>
<b>1986- 90</b>	<ul style="list-style-type: none"> <li>Fintech acquired Rank Xerox South Africa and Altech acquired UEC Projects in 1987</li> <li>Also, Powertech acquired the remaining shareholding in ASEA Sweden and Stromberg South Africa from Stromberg in Finland</li> <li>In 1989, Fintech acquired a majority shareholding in NCR Corporation of South Africa</li> </ul>
<b>1991- 94</b>	<ul style="list-style-type: none"> <li>Formed 50% joint venture with Alcatel France in STC, Altech's telecommunications subsidiary</li> <li>Aberdare Cables acquired Delta Cables</li> </ul>
<b>1995- 96</b>	<ul style="list-style-type: none"> <li>Altron received President's Export Award as the nation's foremost technology exporter from President Nelson Mandela</li> <li>Powertech disposed of its Gentech household appliance business to Whirlpool (USA)</li> </ul>
<b>1997- 98</b>	<ul style="list-style-type: none"> <li>Exports reached R 500 million in value</li> <li>Company acquired Lambda Cables</li> <li>Powertech acquired Sabat Batteries</li> </ul>

<b>1999– 00</b>	<ul style="list-style-type: none"> <li>• Autopage Holdings is delisted and Ventron is unbundled</li> <li>• Powertech acquired Battery Technologies</li> <li>• Group increased its stake to over 50% in subsidiary, USKO through a R 228.4 million</li> </ul>
<b>2000– 01</b>	<ul style="list-style-type: none"> <li>• Powertech acquired Cables de Comunicaciones SL, a leading Spanish telecommunications cable manufacturer</li> <li>• USKO was rebranded as Bytes Technology Group Limited (Bytes)</li> <li>• Formation of “The Altron Executive Committee” to simplify group structure</li> </ul>
<b>2002</b>	<ul style="list-style-type: none"> <li>• Altech sold its 40% stake in Alcatel Altech Telecoms for R 335 million.</li> <li>• Powertech and Fintech got delisted and became wholly-owned subsidiaries of Altron</li> <li>• Powertech’s shareholding of 30% in Voltex distribution was sold for R 130 million to Bidvest</li> </ul>
<b>2002– 03</b>	<ul style="list-style-type: none"> <li>• Altech’s Netstar expands into Malaysia</li> <li>• Alcom systems sold 30% of its stake to Motoma ICT Group</li> </ul>
<b>2004</b>	<ul style="list-style-type: none"> <li>• Altech repurchased R 250 million of its shares in the open market</li> <li>• Altech and the Econet Wireless Group announced R 1 billion joint venture</li> <li>• Aberdare Cables sold 30% to BEE company, Izingwe Capital</li> </ul>
<b>2005</b>	<ul style="list-style-type: none"> <li>• Altech exits joint venture with Econet with a R 150 million profit</li> <li>• Powertech purchased Calidus, a manufacturer and supplier of electrical insulation materials</li> </ul>
<b>2006</b>	<ul style="list-style-type: none"> <li>• Altron increased its shareholding in Bytes to 57.7% by purchasing R 100 million of shares on the open market</li> <li>• Bytes acquired UK – Vantage and Xclusive (Xerox concessionaries).</li> <li>• Altech purchased French-based MobiMaster</li> </ul>
<b>2007</b>	<ul style="list-style-type: none"> <li>• Acquisition of Swanib Cables and IST</li> <li>• Market Capitalisation crosses R 13 billion for the first time</li> </ul>
<b>2008</b>	<ul style="list-style-type: none"> <li>• Powertech acquired the electrical engineering operations of the IST group for R 504 million</li> <li>• Bytes acquired Intelteca and Nor Paper</li> <li>• Altech acquired ComTech for R 53 million</li> </ul>
<b>2009</b>	<ul style="list-style-type: none"> <li>• Altech and Seacom formed a strategic alliance</li> <li>• Altech acquired Technology Concepts, an IT company</li> </ul>

<b>2010- 11</b>	<ul style="list-style-type: none"> <li>• Bytes Document Solutions received 2010 Xerox Middle East and Africa Partner of the Year (MEA)</li> <li>• Altech rated number 1 by Financial Mail Top Companies</li> <li>• Altech won the top listed JSE-listed company 2011</li> </ul>
<b>2012- 13</b>	<ul style="list-style-type: none"> <li>• Powertech Batteries opened a consolidated distribution centre in Elandsfontein</li> <li>• Bytes acquired Alliance Business Solutions to augment its existing Oracle capabilities</li> </ul>
<b>2013- 14</b>	<ul style="list-style-type: none"> <li>• Powertech sold its 50% stake in Tridonic</li> <li>• Atron reorganized and rebranded the group into two simplified operational areas, Altron TMT (combination of Altech and Bytes) and Altron Power (Powertech Business)</li> <li>• Altech launches Altech node</li> </ul>
<b>2015</b>	<ul style="list-style-type: none"> <li>• Altron TMT and Altech Multimedia won Technology top 100 Awards.</li> <li>• Altron TMT won Frost &amp; Sullivan Competitive Strategy Innovation Award.</li> </ul>
<b>2016</b>	<ul style="list-style-type: none"> <li>• Investment group to invest R 400o million into Altron</li> <li>• Med-e-Mass partnered with City of Johannesburg to roll out eHealth</li> </ul>
<b>2017</b>	<ul style="list-style-type: none"> <li>• Bytes People Solutions received Huawei "Best Service Partner 2016" Award</li> <li>• Bytes Managed Solutions wins Asian Banker Technology Innovation Award with NCR and Nedbank</li> </ul>
<b>2018</b>	<ul style="list-style-type: none"> <li>• Altron's Bytes UK signs five-year £150m deal with NHS</li> <li>• Altron appoints acting Group CFO Tim Jacobs</li> </ul>

## 2.4 Company Premiums<sup>xviii</sup>

**Sustainable Business Model:** The company has a stable business model which revolves around financial sustainability, human capital, products and services and external relationships. The company is focusing on capital and cost efficiencies and is rationalizing its business. Also, it is now emphasizing on innovation and R&D to establish itself in ICT industry. Altron has also set up shared services model which has led to cost saving of 6.6% on the present cost base of R350 million for repeatable, transactional and standardized processes. It has also centralized its specific functions such as Group IT, procurement, recruitment, payroll, legal, real estate management and finance.

**Double digit EBITDA growth rates:** Group's EBITDA has grown by 17% for total operations. EBITDA for H1 2018 stood at R 443 million compared to R 380 million of H1 2017 which shows that EBITDA growth-rate has been good. EBITDA margin stood at 5.1% for H1 2018 in comparison to 3.3% of H1 2017.

**Cash Inflow through discontinued operations:** Altron has closed-down the operations for several subsidiaries because of which there has been a good amount of cash inflow.

**Exhibit 13: Discontinued operations<sup>xix</sup>**

Particulars	Status	Realised	Deferred
Powertech Batteries	Sale Concluded	R 227 million	R 107 million
Aberdare (17.5% put option)	Sale Concluded	R 928 million*	R 94 million
PTSI	Sale Concluded	R 20 million	-
Swanib Cables	Sale Concluded	R 56 million	-
Crabtree	Sale Concluded	R 39 million	-
Switchgear / Quadpro	Sale Concluded	R 10 million	-
Powertech Transformers	In Progress	R 100 million expected 31 May 2018	R 150 million
CBI Telecom Cable	In Progress	Expected FY 19	-
Altech Multimedia / UEC	In Progress	Expected FY 19	-

\* Realised FY 2017

## 2.5 Company Risks<sup>xx</sup>

**Financial burden:** Company is highly leveraged as total debt stood at more than 100% of its total capital, despite paying off 42% of its debt in last fiscal year. Also, negative cash flow at the end of FY2018 further intensifies the financial risk of the company

**Increasing Competition:** ICT industry in Africa is expected to grow with a compounded annual growth rate of more than 8 percent, as a result competition within the region will increase which might impact the market share of the company

**Higher Concentration:** High revenue concentration where Altron derived 71% of its revenue from South Africa during 2018.

## 2.6 Business Strategy<sup>xxi</sup>

**Financial stability:** Altron is emphasizing more to achieve profitable growth and cost efficiencies while rationalizing the business. It is divesting its capital-intensive operations and is focusing in enhancement of core business units. Altron is planning to invest its funds in technological solutions.

**Products and Services:** It has closed its manufacturing operations and has shifted to cloud-based technology. Altron is spending more on R&D to enhance its product portfolio and is also investing in new and modern areas of TMT. Company is planning to lead through innovation by leveraging technology and market shifts.

**External Relationships:** The company is looking forward to build and maintain strategic alliances and key partnerships. The company is focusing on be customer-centric and understand the current and future spending patterns.

**Inorganic Growth:** The company has been focusing on inorganic growth. In 2017, Altron acquired Phoenix Software, an IT value - added reseller of software products and related services in the UK at a value of GBP 35.9 million. Company also made some strategic acquisitions such as EZY2C, Cape Office Machines(Stellenbosch) and Digicopiers.

**Strategic Alliance:** As part of business strategy, Altron has formed multiple strategic partnerships. The company has formed an alliance with companies such as Tango Telecom (Data analytics), Performanta (Security) and IOT.Nxt (Internet of Things).

## 2.7 Financial Overview<sup>xxii</sup>

In 2018, Altron generated revenue of R 14,743 million in 2018 compared to R 13,305 million in 2017 which showed a growth of more than 14%. EBITDA increased by 19% from R 940 million in 2017 to R 1,114 million in 2018. ROCE from continuing operations stood at 21%. The overall net debt of R 1.9 billion remained constant compared to the prior year. Cash from operations totaled R 1.2 billion for the year

Altech Netstar has shown a rise in terms of revenue and EBITDA. The revenue has increased by 13% to R 1,378 million in 2018 from R 1,224 million in 2017. Also, EBITDA has increased by R 25 million to R 291 million in 2018. EBITDA margins slightly fell by 0.6% to 21.1% in 2018. These improved numbers are mainly because of improved subscriber growth, particularly in stolen vehicle recovery, with churn and retentions under control. Also, EZY2C acquisition performed in line with expectations.

Arrow Altech Distribution registered a slight fall in revenue which was of 7%. The revenue of the company fell R 42 million to R 560 million in 2018 from R 602 million in 2017. Also, the EBITDA margin declined to 5.9% in 2018 from 6.6% in 2017 mainly because of a slow-down in defense industry.

Bytes Technology's revenue increased by 49% from R 4,090 in 2017 to R 6,088 million in 2018. The performance was positively impacted by the acquisition of Phoenix which contributed 19% of revenue growth and 16% EBITDA growth.

Bytes Systems Integration witnessed a marginal decline of 2% in the revenue from R 1,943 million in 2017 to R 1,897 million. However, the EBITDA margin increased to 6.5% in 2018 from 5.2% in 2017. The company saved R 20 million of costs. The company is planning to improve its EBITDA margin by focusing on high growth areas and reducing overhead costs.

Bytes People Solutions noticed a marginal increase in revenue which is of 3% as the revenue increased to R 438 million in 2018 from R 426 million in 2017. The EBITDA margin dipped to 6.6% in 2018 from 9.6% in 2017. The company is planning to drive efficiencies in BPO environment by focusing on enabling technologies – robotic processes and multi channels.

Altech Radio Holding's revenue increased by 2% to R 1,155 million in 2018 from R 1,127 million. Business environment for Altech radio Holding was challenging but the company built an exceptional sales pipeline on back of local and provincial government broadband strategy. EBITDA margin fell to 6.9% in 2018 from 7.5% in 2017.

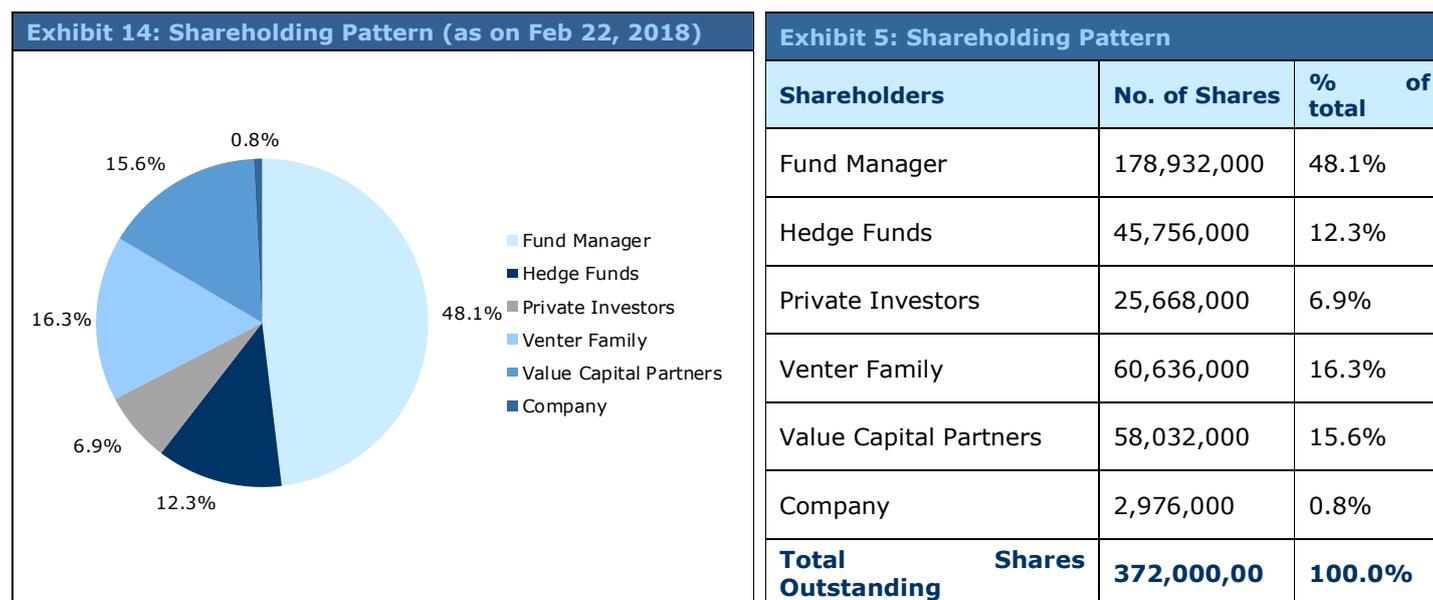
Bytes Document Solutions' sales declined by 1% to R 1,353 million in 2018 from R 1,365 million in 2017 whereas EBITDA grew by 23% to R 70 million in 2018 from R 57 million in 2017. The company is focusing on only three growth areas (a) managed print services (b) A4 print environment (c) High-end production environment

Bytes Managed Solutions witnessed a decline of 22% in revenue. The company's revenue fell from R 1,321 million to R 1,027 million in 2018. Also, EBITDA fell from R 89 million in 2017 to R 74 million in 2018. This decrease was mainly because reduced spend from the big four banks.

Bytes Secure Transaction Solutions' revenue increased by 8% to R 1,073 million in 2018 from R 992 million in 2017 mainly because of growth in Fintech space. EBITDA increased by R 41 million to R 253 million in 2018 from R 212 million in 2017. The company is focusing on HealthTech, FinTech and CyberTech to deliver its growth.

## 2.8 Shareholding Pattern<sup>xxiii</sup>

The Company had 372,000,000 shares of common stock issued and outstanding on February 22, 2018.



## 2.9 Listing and Contact Details<sup>xxiv</sup>

Altron is listed on Johannesburg Stock Exchange (JSE) in Johannesburg (Ticker: AEL).

### Company Contacts

Address: Altron house, 4 Sherborne Road, Parktown 2193, Gauteng, South Africa  
 Contact No: +27 11 645-3600  
 Fax: +27 11 726-3009  
 Email Id: info@altron.co.za

### 3. News<sup>xxv</sup>

- **Altron appoints acting Group CFO:** Company announced that it has appointed Tim Jacobs as its acting Group CFO with effect from 1 March 2018.
- **Altron's Bytes UK signs five-year £150m deal with NHS:** Altron, has signed a five-year contract with the UK's National Health Service (NHS) to roll out Windows 10, Microsoft's latest operating system, to all NHS computers
- **Altron invests R 4 million in the future of SA's youth in Gauteng:** Altron's Altech Radio Holdings (ARH) has handed over ICT laboratories worth a total of R 4 million to three Gauteng schools to enhance the teaching process and improve the learner experience.
- **Altron sells its stake in Powertech Transformers for R 250 million:** In November 2017, Altron announced that it will be disposing off its 80% interest in Powertech Transformers Proprietary Limited (Power Transformers) to a B-BBEE consortium comprising of Europe's number one medium-sized manufacturer of transformers, SGB-SMIT, and local black-owned Power Matla Group. The transaction was valued at R 250 million.
- **Altron and Tango formed a partnership to launch Data Retail Engine:** Altron and Ireland based Tango Telecom, the leading provider of data monetization solutions, announced a partnership to launch Data Retail Engine (Tango DRE) in Africa. This Tango DRE enables African mobile operators to quickly launch and monetize new innovative digital services that drive consistent consumer spending on data throughout the subscriber life cycle.
- **Altron's Bytes Universal Systems achieves Maturity level 3 in CMMI:** Altron's fully owned subsidiary Bytes Universal Systems became the first South African Company to achieve Maturity level 3 in Capability Maturity Model Integration (CMMI) for Services appraisal program. CMMI Maturity level 3 is an international recognition offered by the CMMI institute in the USA which is awarded to those organizations which have proven their excellence in ensuring high quality, better standards, enhanced capability and continuous improvements in the delivery of IT solutions and services.
- **Altron's posted improved revenue numbers:** In H1 2018, Altron's revenue improved by 5% to R 6.8 million which was driven by the performance of Group's international operations. Also, Altron's EBITDA increased by 19% to R 501 million. Apart from this, Altron is also focusing on its geographical expansion as its subsidiary Bytes Technology Group acquired Blenheim group and its subsidiary Phoenix Software in the UK for £ 35.9 million. This acquisition will support Bytes UK's presence in the value-added reseller segment, making it a significant player in the UK software market.
- **Bytes UK acquired Phoenix Software:** Bytes UK, wholly-owned subsidiary of Altron, has acquired UK based IT reseller Phoenix Software, end to end IT solutions provider with a solid 27-year history. This acquisition will boost the Byte's UK presence in the value-added reseller segment. Phoenix Software was acquired for GBP 35.9 million at a EBITDA multiple of 7.
- **Altron appointed business unit Managing Directors:** Altron appointed Chad Baker as Managing Director of Bytes Managed Solutions, and Leslie Moodley as Managing Director of Bytes Systems Integration, a new business unit within Altron coming out of the consolidation of Bytes System Integration and Bytes Universal Systems.
- **MD of Altron received ICT award:** Dr. Madelise Grobler, MD of Bytes People Solutions, was awarded as both the country and SADC regional winner in the ICT category in the Africa's Most Influential Women in Business and Government 2017 Awards.
- **Altron acquired Australian fleet logistics operation:** Allied Electronics Corporation Limited (Altron) announced that its wholly owned subsidiary, Altech Netstar, had acquired 100% of the shareholding of Fleet Logistics (Pty) Ltd, an Australian fleet management business based in New South Wales, Australia.
- **Bytes Universal Systems' SAMRAS solution empowers municipal compliance:** In July 2017, Bytes Universal Systems announced that it has successfully implemented SAMRAS, its locally developed and fully integrated financially management system solution, in all its municipal customers across the country for mSCOA 6.1 compliance.

- **Bytes people Solutions received Huawei “Best Service partner 2016” award:** The company received “Best Service Partner 2016” award. The award was in recognition of Bytes People Solutions obtaining the best results from all suppliers in the service category.
- **Altron disposes of Crabtree to Siemens AG, subject to regulatory approval:** Altron announced that its wholly owned subsidiary, Power technologies Proprietary Limited (Powertech), has entered into an agreement whereby it will dispose of Crabtree Electrical Accessories (Crabtree) to Siemens AG.
- **Bytes Managed Solutions appoints Core Business Development Executive:** Bytes Managed Solutions appointed Alan Anderson as Core Business Development Executive
- **Altron appoints executive committee members:** Altron appointed Collin Govender and Zipporah Maubane as Group Executive: Shared Services and Group Executive: Marketing, PR and Corporate Communications, respectively.
- **Bytes Managed Solutions appoints Senior Manager Business Development – New Industries:** The company appointed Shuheid Brown as Senior Manager Business Development – New Industries.
- **ACS and CONDYN partner to provide revolutionary information security solutions:** ACS, part of JSE-listed Altron Group entered a co-distribution partnership with CONDYN to expand the current sub-Saharan market footprint of Thales encryption devices.
- **Bytes Managed Solutions wins Asian Banker Technology Innovation Award with NCR and Nedbank:** Bytes (MS), a leading managed digital solutions company in Africa, today announced it had received the “Best Branch Automation Project” award at The Asian Banker Technology Innovation Awards ceremony.
- **PBSA partnered with Altech Card Solutions (ACS):** PBSA recently entered into a partnership with Altech Card Solutions(ACS) to offer Thales HSM’s to its digital signature customers using the SignFlow application.

#### 4. Management and Governance<sup>xxvi</sup>

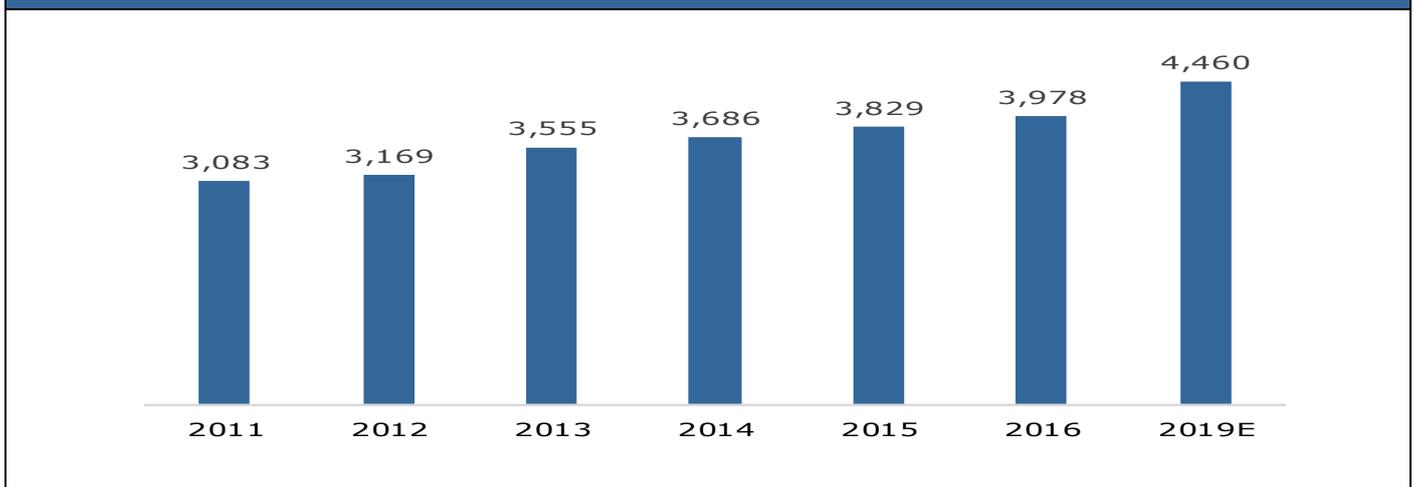
The Management and Governance team has vast experience in the high-tech implants for different joints of the human body and in managing operations and finance for multiple businesses. They also possess extensive background in investment matters.

Exhibit 15: Management and Governance		
Name	Position	Past Experience
M (MTETO) NYATI	Chief Executive	<ul style="list-style-type: none"> <li>• He has completed BSC Mechanical Engineering from University of Kwa-ZuZu Natal</li> <li>• He served as Chief Executive Officer at MTN SA from July 2015 till March 2017</li> <li>• He also served as Group Chief Enterprise Officer of MTN Group Limited</li> <li>• He served as General Manager in Microsoft for Middle East and Africa (MEA) Emerging Regions</li> <li>• He also served as Head / Managing Director for Microsoft Corporation South Africa since 2008</li> </ul>
TIM JACOBS	CFO	<ul style="list-style-type: none"> <li>• He is a Chartered Accountant and has done B. Com from Rhodes University</li> <li>• He has served as the Chief Executive Officer of Multichoice Africa at Naspers Limited since April 2015 until January 2017</li> <li>• He has also served as an Executive Director of Nampak Ltd. from October 1, 2005 to August 31, 2009</li> </ul>
MJ (MIKE) LEEMING	Chairman	<ul style="list-style-type: none"> <li>• He has done B.Com, M.Com, FIBSA, FCMA and AMP (Harvard)</li> <li>• He has many years of experience in banking industry and has held many directorships</li> <li>• He was appointed as Chairman of Altron on March 1, 2017</li> <li>• He served as executive director of Nedcor Bank Limited from 1994 to 2002</li> <li>• He also served as executive director of Nedcor Limited from 1999 to 2002</li> </ul>

## 5. Industry Overview

The global information and communication technology (ICT) services sector is expected to grow to US\$ 4,460 billion by 2019 from US\$ 2,011 billion in 2016 with a compounded annual growth rate (CAGR) of 6.3%. Businesses will continue to invest in the IT sector as companies expect growth in the top line, but their spending pattern will swing. The projects which will continue to drive the markets will be ventures in digital business, blockchain, Internet of Things (IoT), and progression from big data to algorithms to machine learning to artificial intelligence (AI). However, uncertainty will remain as the organizations consider currency fluctuations, and a possible global recession.

**Exhibit 16: Market size of IT services worldwide<sup>xxvii</sup>**



The ICT sector in South Africa is very diverse. It comprises broad areas such as broadcasting and local content, electronic media, postal services, telecommunications, and IT, among others, representing both public and private interests. These sectors are supported by electronics manufacturing, repairs and installations.

### 5.1 Growth drivers of ICT

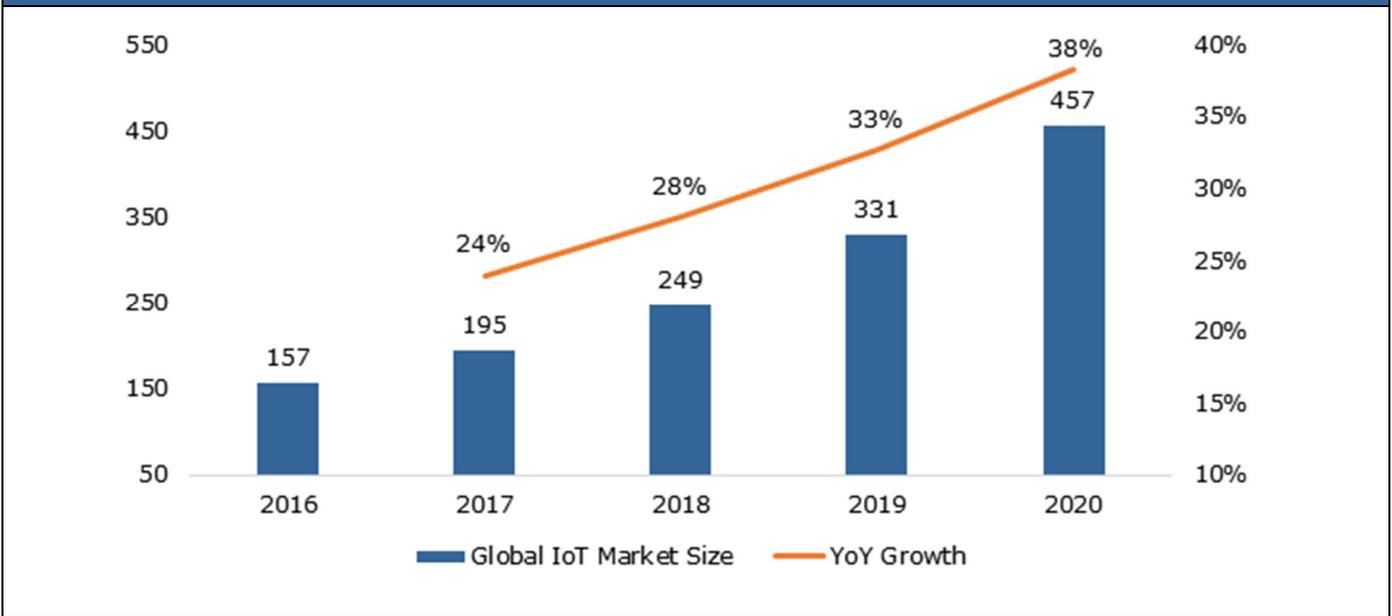
The sector is on the cusp of a digital revolution where transformation will unfold over the coming decades with opportunities and challenges. The four major developments within the ICT sector are IoT, cloud computing, big data analytics and AI.

#### 5.1.1 IoT

IoT constitutes the next phase of the development of the Internet and it is rapidly expanding its footprint in the field of digital technology. It will help expand digital connectivity beyond people, organizations and information resources to objects equipped with digital information sensing, processing and communicating capabilities.

The global IoT market will grow from US\$ 157 billion in 2016 to US\$ 457 billion by 2020, attaining a CAGR of 28.5%.

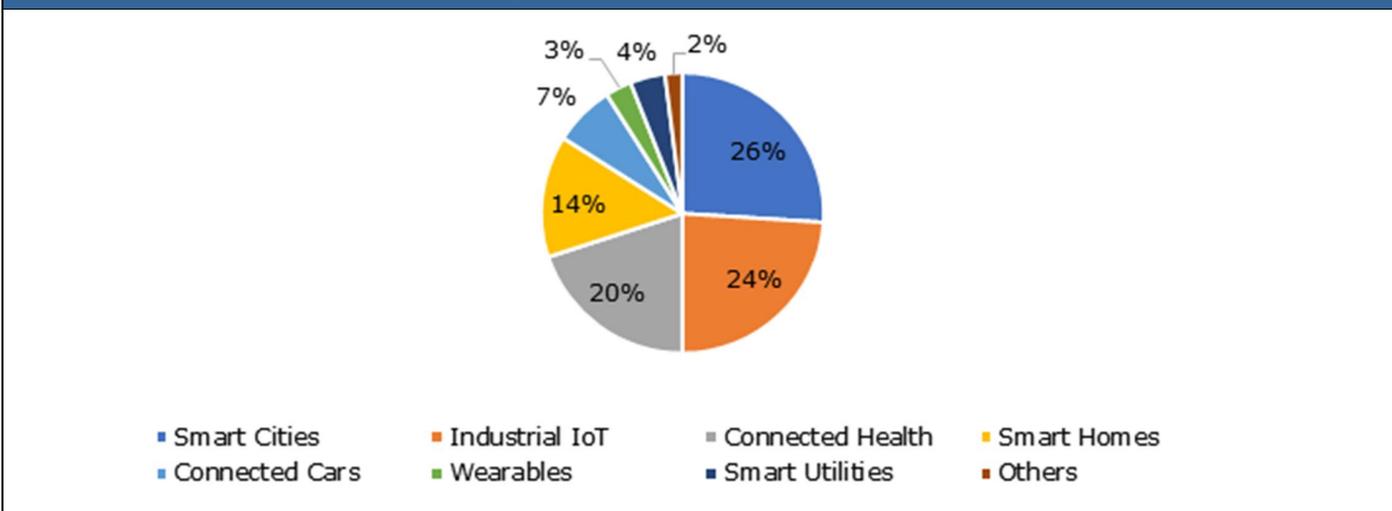
**Exhibit 17: Global IoT Market size (US\$ billion)<sup>xxviii</sup>**



The global IoT market share will be dominated by three sub-sectors: Smart Cities, Industrial IoT and Connected Health, constituting 70% collectively, followed by Smart Homes (14%), Connected Cars (7%), Smart Utilities (4%) and Wearables (3%).

In 2016, the global IoT industry received funding of US\$ 4.46 billion through 690 deals. A large proportion of these deals involved startups in the Industrial IoT space. The global IoT funding market is expected to grow at the rate of 5% year-on-year (YoY).

**Exhibit 18: Global IoT Market Share by Sub-Sector<sup>xxix</sup>**



### 5.1.2 Big Data Analytics<sup>xxx</sup>

In today's digital world, big data plays a vital role. It generates useful information from the vast amounts of data available in the digital communication environment. The uses of big data analytics span a wide spectrum, including better understanding of complex phenomena, early warning about impending developments, and predictive analytics. As per International Data Corporation (IDC), the global revenues for big data and business analytics will grow from US\$ 130.1 billion in 2016 to more than US\$ 203 billion in 2020 at a CAGR of 11.7%. According to IDC, by the end of 2017, growth of revenue from information-based products was expected to be double the rest of the product / service portfolio for one-third of Fortune 500 companies. IDC also stated that "data monetization" will become a key source of revenues, as the world will create 180 zettabytes of data (or 180 trillion gigabytes) in 2025, up from less than 10 zettabytes in 2015.

IDC states that by the end of 2018, new cloud pricing models for specific analytics workloads will drive around 5 times higher growth in spending on cloud versus on-premises analytics solutions.

### 5.1.3 Cloud Computing

Cloud computing is the latest stage in the continuous evolution of computing concepts. It is considered as complementary to big data, IoT, and AI. The benefits of neither big data nor IoT would be fully realised without cloud computing. Because cloud computing requires good levels of always-on connectivity and network infrastructure, any constraints may significantly impede the usability of cloud solutions.

The public cloud services market witnessed a growth of 28.6% in H1 2017 wherein the top-line totaled € 58.4 billion. However, the growth was unevenly spread across software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS). There are now thousands of SaaS applications, available from internet giants to startups. The SaaS segment holds nearly 69% of the overall public cloud market share, but its YoY growth rate of 22.9% is the slowest of the three primary segments. The rise of the SaaS industry has continued to captivate the business community at large, given the impressive growth rate the segment has witnessed over the past three decades. The industry's strong momentum into an even brighter future is hard to refute; and SaaS executives and investors are keen to play bigger and bolder roles as the industry evolves.

Investors such as venture capitalists, private equity, asset managers, hedge funds, as well as individual investors, are the key sources of funding and are acting as fuel to the industry's growth. The emerging SaaS industry, a part of the overall "Cloud Services" market, generates € 37 billion annually and is expected to grow further to € 61 billion by 2020. On the other hand, the usage of traditional enterprise software is anticipated to witness reduction as companies experience multiple benefits of SaaS, including its lower relative cost compared to traditional software, its continuous and seamless platform technology upgrades, and the increasing trust in security protocols offered by cloud providers.

Particulars	2017	2018	2019	2020
Cloud Business Process Services	39.0	38.4	41.6	45.4
Cloud Application Infrastructure Services	7.9	8.6	10.2	11.9
<b>Cloud Application Infrastructure Services</b>	<b>41.1</b>	<b>44.5</b>	<b>52.4</b>	<b>61.1</b>
Cloud Management and Security Services	7.8	8.4	9.8	11.3
Cloud System Infrastructure Services	30.7	36.8	46.7	57.8
Cloud Advertising	92.7	95.6	107.8	121.9
<b>Total Market</b>	<b>219.0</b>	<b>232.2</b>	<b>268.6</b>	<b>309.4</b>

### 5.1.4 AI

The AI market has evolved at a remarkable pace as technology companies and an increasing number of startups have shown strong interest in creating platform-based solutions to help clients achieve optimum results. Newer technologies such as deep learning, intelligent robots, natural language processing, cognitive computing and querying method, etc., have aided in the enhancement of the existing systems to produce maximum output. The major drivers for growth are increasingly large and complex datasets and a growing number of AI applications in various end-user industries.

Moreover, the increasing adoption of AI-enabled products and software tools to improve consumer services further accelerate its market growth.



In 2016, the global AI market size was US\$ 1.4 billion, and it is expected to reach a value of US\$ 59.7 billion in 2025 at a CAGR of 52%. A good amount of investment is being made in AI by a lot of companies, which is expected to provide some acceleration to the AI industry. In 2016, AI startups raised funding of US\$ 5 billion, despite decline in venture capital funding across several other industries.

Of all the major end-user industries, retail, healthcare, finance, agriculture, transportation and automotive hold immense potential for AI. The market for the healthcare end-user industry is expected to grow at the highest rate in the AI market from 2016 to 2022.

## 5.2 Global Overview

The global market size of selected ICTs is expected to grow at a significantly higher rate. The table below summarises the estimated global revenues for the selected advanced ICTs.

Based on the forecasts below, IoT and public cloud services are expected to generate the highest revenues. While all activities are growing fast, public cloud services, and especially AI, is forecast to experience much higher growth.

**Exhibit 21: Estimated global market sizes for selected advanced ICTs (US\$ billion)<sup>xxxiii</sup>**

	2018	2019	2020
IoT	249	331	457
Big data	42	49	56
Public cloud	232	269	309
AI	4	7	10.5

### 5.2.1 Regional Analysis<sup>xxxiv</sup>

IoT, cloud computing, big data and AI have all shown their tremendous potential but continue to be in fairly early stages of experimentation. In every region, numerous innovative projects are under way. Given below is an insight for various regions.

#### 5.2.1.1 Africa

The four ICT trends and related technological capabilities hold great promise for Africa. Potential applications with significant positive impact range from precision agriculture to increased efficiency and yield, to programmes providing education on best agricultural practices, to remote provision of health and new models of education. However, the region faces numerous obstacles that need to be overcome to take full advantage of these developments. A first challenge is the state of ICT infrastructure in general. Despite major advances in mobile connectivity and Internet access, many African nations continue to lag behind other regions of the world in mobile connectivity. This gap is more pressing in the technologies that are critical for IoT, big data, AI and cloud computing. Large-scale deployments of big data analytics, cloud computing and AI will require fixed

broadband infrastructure. The underdevelopment of fixed connectivity, therefore, constitutes a major challenge and obstacle to fully benefit from advanced ICTs.

#### **5.2.1.2 Arab States**

Countries in the Arab States region have great potential to reap the benefits of the digital economy. A large percentage of young people in the age pyramid are social-media and technology savvy. Qatar, the United Arab Emirates and Bahrain have the highest smartphone ownership rates in the world and among the highest rates of social-media use. Despite this potential, the region needs to overcome several challenges. A culture of digital entrepreneurship and empowerment is only slowly emerging. Businesses lag behind in terms of digitisation, and government initiatives are limited. Moreover, venture capital funding is lower than in peer regions. McKinsey Global Institute estimates that only 1% of the top 1,000 ICT companies globally, by revenue, are located in the region. All this calls for concerted efforts to implement initiatives in government and business, and in the education sector. That will allow users to take better advantage of the digital opportunities.

#### **5.2.1.3 Asia and the Pacific**

Several countries and companies in the Asia and the Pacific region have grown into global leaders in the ICT sector, thus propelling the digital economy in the region. The strong performance of Asian nations is an outcome of a pragmatic series of policy reforms that have balanced private sector competing with government planning and the setting of overarching objectives. A project such as Songdo City in the Republic of Korea, a high-tech city taking full advantage of advanced ICTs, is an example of a successful, ambitious strategy. Similarly, Singapore has adopted several generations of plans to develop into a leading example of a smart city of the future. Japan, likewise, has supported its high-tech industries for decades and invested strategically in emerging fundamental technologies such as quantum computing.

Within Asia and the Pacific, there are considerable differences and gaps. The region encompasses both global top performers as well as countries that lag significantly behind others. Home to several of the most populous countries, the region has considerable potential. Considering average key performance metrics, it leads the world in ICT adoption, broadband speeds, mobile connectivity and network latency. The figure of 128.5 million M2M subscriptions in 2016 corresponds to an average rate of 3.8 per 100 inhabitants.

The technological progress of the region is clearly shown in the position of major vendors of telecommunication equipment and their patent activity. Given the rapid development of the ICT sector and of the country in general, IoT promises high incremental benefits in China. In this context, there are numerous applications. Given the high skill levels of part of the workforce, China is in a good position to take advantage of these opportunities. This is further advanced by concerted government efforts to diffuse advanced production technologies across all sectors of the economy (OECD, 2017).

Likewise, India is poised to take advantage of the enormous efficiency potential that can be unlocked with advanced ICT use. Internet access and smartphone use are growing rapidly, and the cost of data communications is declining. Key sectors that will benefit from the wide application of IoT, big data, cloud computing and AI (e.g., finance, manufacturing, agriculture, transportation and logistics) are ripe to apply these technologies. The Government has started several initiatives to accelerate adoption, including Digital India, Startup India, and training for entrepreneurship.

#### **5.2.1.4 Commonwealth of Independent States (CIS)**

Regarding the state of the ICT infrastructure, the nine-member states and two associate states of CIS are positioned between the leading regions (Asia and the Pacific, North America and Europe) and the Arab States, Latin America and Africa. Use of advanced network services and smartphones, likewise, lies between the values for these regions. With an average download connection speed of 7.4 megabits per second (Mbps), there is a clear gap as compared to the leading nations. At the same time, the region benefits from a large pool of highly educated engineers and computer scientists and a wage level that is below that of high-income countries.

Armenia is sometimes referred to as the Silicon Valley of the region, and leading high-tech companies, including Microsoft and Cloudflare, a cloud service provider, have established offices and data centers in Yerevan. Among the major obstacles to benefiting from advanced ICTs are a low level of trust and limited venture capital funding. Successful digital entrepreneurs, after an initial startup phase, often seek to migrate their businesses to the United States or

Europe. Several policy initiatives, including the creation of Free Enterprise Zones with reduced or no taxes, are intended to support a culture of entrepreneurship. Given the potential of IoT solutions to contribute to institution building, as well as to entrepreneurship and innovation, the region is well-positioned to harvest considerable benefits of advanced ICTs.

#### **5.2.1.5 Europe**

Several European countries are among the world leaders in Internet connectivity. Europe has dedicated several major research initiatives to technologies related to IoT, and numerous business and government activities across the region are pursuing promising innovation projects. On an average, network performance across Europe is high. Fixed network download and upload speeds are slightly below the Asia and the Pacific and North American averages. Mobile upload and download speeds are also below those in the Asia and the Pacific region and mobile upload speeds are also below those in North America. Overall, however, the three regions exhibit, on an average, quite comparable performance metrics.

As in other regions, there is considerable variation within the region, with the highest download and upload speeds in the Nordic countries, Switzerland and, interestingly, countries such as Romania, which could leapfrog generations of networking technology and roll out fiber networks that support high speeds. Cisco (2016) estimates that Europe will generate about 3,000 exabyte (EB) of cloud traffic per year in 2020, ranking third behind North America and Asia and the Pacific. With an estimated 91.8 million M2M subscriptions in 2016, the rate is about 12.4% of the population. In 2015, Pew Research Center found that 60% of Europeans owned smartphones. IDATE DigiWorld (2016) estimates that the smart home market in Europe will grow from 53 million units in 2015 to 185 million in 2025. Overall, Europe is well-positioned to take advantage of the technological opportunities. One potential weakness is the less aggressive culture of entrepreneurship.

#### **5.2.1.6 The Americas**

Considerable differences exist between North America and South America, so a differentiated treatment is necessary. North America is home to leading technology companies with a strong footprint across all four areas. Despite this strong presence across major technology industries, there is still scope for reaping more of the potential efficacy gains of digital technologies. ICT industries, media, finance and professional services are leading, whereas manufacturing and utilities are only in the early stages of digitisation.

Telecommunication infrastructure policy is strongly driven by market forces. Given the large land mass and low average population density of the United States, this has contributed to be a stronger spatial differentiation than in most other high-income countries. Some locations enjoy much better quality of service than other countries, while other areas are worse off. Consequently, on an average, United States performance metrics often trail the global leaders, although this perspective misses the degree of differentiation present in the United States. Canada's network infrastructure and services are less differentiated but also of very high quality.

Internet usage and smartphone ownership in the United States and Canada are among the highest in the world. Network infrastructure has been upgraded continuously, with particularly rapid advances in the deployment of Long-Term Evolution (LTE) networks. North America is expected to generate 6,844 EB per year by 2020, the highest cloud data traffic of all world regions. With 65 million M2M subscriptions by 2016, North America had a per-capita penetration of approximately 18.6%. By 2025, the smart home market is estimated to be 254 million units.

Given the lower average income in Latin America, many of the network and adoption metrics are weaker than in North America. With 9.3 Mbps average download speeds on fixed networks, the region ranks fifth in the world. It ranks sixth in terms of upload speeds on fixed networks. Likewise, the average regional mobile network download and upload speeds are among the lowest in the world. There were about 25.2 million M2M subscriptions in 2016, corresponding to approximately four subscriptions for every 100 inhabitants. By 2025, the smart home market is estimated to be 37 million units.

### 5.3 SWOT Analysis – ICT Industry

<b>Exhibit 22: SWOT Analysis</b>	
<b>Strengths</b>	<b>Weaknesses</b>
<p>Compactness for piloting</p> <p>Wide awareness of ICT but still much more to be done</p> <p>Understanding broad spectrum of technologies</p> <p>Agility – small country, ability to change quickly</p> <p>Entrepreneurial culture</p> <p>Propensity to identify niches</p> <p>Funding and business support available (specifically micro-invest)</p> <p>iGaming Sector – support &amp; development provided</p>	<p>Multiple technology knowledge (diversity of tech products)</p> <p>Strong cross-industry knowledge</p> <p>Soft skills to deal with globalization, internationalization</p> <p>Sec Computing education (&amp; creativity)</p> <p>Lack of cross-faculty programmes at universities</p> <p>Creativity (lack of) &amp; Graduates’ mind-set</p> <p>Passiveness in providing advice to ICT-using companies</p> <p>ICT sector not providing consultative, additional ICT knowledge to the ICT-using sector</p> <p>Lack of collaboration in the industry</p>
<b>Opportunities</b>	<b>Threats</b>
<p>Ability to innovate, create and sell</p> <p>Cloudification and clustering for ICT-using sectors</p> <p>Development of off-the-shelf packages for international markets</p> <p>Development of interfaces (for shareable data, for reducing costs and time-to-market)</p> <p>Tapping into regions that are in proximity</p> <p>Clustering between companies to tap into big international projects</p> <p>Inclusivity and accessibility of sectors</p> <p>Common directory amongst the ICT sector (for clustering)</p>	<p>Expenses to retrain, retain (offering share options to employees)</p> <p>Nurturing of key skills and aptitudes (through educational system)</p> <p>Culture of team work and collective achievement (lack of)</p> <p>Lack of funding for idea incubation</p> <p>Ease of access for funds</p> <p>Venture capitalist funds and angel-investment schemes (non-taxable)</p> <p>Viability of importing cheaper resources</p>

## 6. Valuation

The Fair Market Value for all the Company shares stands between R 5,927 MM and R 7,695 MM as of July 05, 2018. The Fair Market Value for one Company publicly traded share stands between R 15.93 and R 20.69 as of July 05, 2018. The valuation approach followed is the Discounted Cash Flow method.

### 6.1 Discounted Cash Flow Method

#### Valuation

WACC	
Risk-free rate	8.72% <sup>xxxv</sup>
Beta	0.94 <sup>xxxvi</sup>
Equity Market return	13.17% <sup>xxxvii</sup>
Country Risk Premium	0.0%
Cost of Equity	12.9%
Cost of Debt	9.95%
Terminal Growth Rate	1.0%
WACC (Discount Rate)	11.43%

Year Ending- Feb	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
<b>FCFF (Low)</b>								
Net cash from operating activities	804	1,056	1,074	1,037	1,182	1,370	1,487	1,831
Capital Expenditure	(309)	(340)	(371)	(403)	(438)	(474)	(512)	(553)
Free Cash Flow to Firm	494	716	703	634	744	896	975	1,279
Discount factor	0.86	0.78	0.70	0.62	0.56	0.50	0.45	0.41
Present Value of FCF	427	555	489	396	417	451	440	518
<b>FCFF (High)</b>								
Net cash from operating activities	909	1,190	1,226	1,207	1,373	1,585	1,727	2,105
Capital Expenditure	(311)	(343)	(376)	(411)	(449)	(487)	(529)	(574)
Free Cash Flow to Firm	599	847	850	796	925	1,098	1,198	1,531
Discount factor	0.86	0.78	0.70	0.62	0.56	0.50	0.45	0.41
Present Value of FCF	517	657	591	497	519	553	541	621

Arrowhead Fair Value Bracket	High	Low
Terminal Value (TV)	12,992	10,849
Present Value of TV	5,867	4,899
Present Value of FCF	4,733	3,932
Net Debt <sup>xxxviii</sup>	2,904	2,904
<b>Equity Value Bracket</b>		
Shares O/s (MM)	372	372
<b>Fair Share Value Bracket (R)</b>		
	<b>20.69</b>	<b>15.93</b>
Current Market Price (R) <sup>xxxix</sup>	15.58	15.58
Upside/(Downside)	32.8%	2.3%
Current Market Cap. (R 'MM)	5,796	5,796
<b>Target Market Cap. Bracket (R 'MM)</b>	<b>7,695</b>	<b>5,927</b>

## Sensitivity Analysis

Sensitivity Table - High		WACC (%)				
		9.4%	10.4%	11.43%	12.4%	13.4%
GROWTH RATE (%)	0.0%	22.50	20.85	19.32	17.89	16.56
	0.5%	23.25	21.55	19.98	18.51	17.14
	1.0%	24.06	22.31	20.69	19.17	17.76
	1.5%	24.94	23.14	21.46	19.90	18.44
	2.0%	25.90	24.04	22.30	20.69	19.18

Sensitivity Table - Low		WACC (%)				
		9.4%	10.4%	11.43%	12.4%	13.4%
GROWTH RATE (%)	0.0%	17.43	16.06	14.79	13.61	12.50
	0.5%	18.05	16.65	15.34	14.12	12.98
	1.0%	18.73	17.28	15.93	14.67	13.50
	1.5%	19.47	17.97	16.58	15.28	14.07
	2.0%	20.27	18.72	17.28	15.94	14.69

## Approach for DCF Valuation

**Time Horizon:** The Arrowhead fair valuation for ALTRON is based on a DCF method. The time period chosen for the valuation is 95 months (2019E-2025E).

**Terminal Value:** Terminal value is estimated using terminal growth rate of 1.0%.

**Prudential nature of valuation:** It should be noted that this Arrowhead Fair Value Bracket estimate is a relatively prudential estimate, as it discounts the eventuality of any new products being launched in the market or any significant change in the strategy.

### **Important information on Arrowhead methodology**

The principles of the valuation methodology employed by Arrowhead BID are variable to a certain extent depending on the subsectors in which the research is conducted, but all Arrowhead valuation research possesses an underlying set of common principles and a generally common quantitative process.

With Arrowhead Commercial and Technical Due Diligence, Arrowhead extensively researches the fundamentals, assets and liabilities of a Company, and builds solid estimates for revenue and expenditure over a coherently determined forecast period.

Elements of past performance, such as price/earnings ratios, indicated as applicable, are present mainly for reference purposes. Still, elements of real-world past performance enter the valuation through their impact on the commercial and technical due diligence.

Elements of comparison, such as multiple analyses may be to some limited extent integrated in the valuation on a project-by-project or asset-by-asset basis. In the case of this ALTRON report, there are no multiple analyses integrated in the valuation.

### **Arrowhead BID Fair Market Value Bracket**

The Arrowhead Fair Market Value is given as a bracket. This is based on quantitative key variable analysis, such as key price analysis for revenue and cost drivers or analysis and discounts on revenue estimates for projects, especially relevant to those projects estimated to provide revenue near the end of the chosen forecast period. Low and high estimates for key variables are produced as a tool for valuation. The high-bracket DCF valuation is derived from the high-bracket key variables, while the low-bracket DCF valuation is based on the low-bracket key variables.

In principle, an investor who is comfortable with the high-brackets of our key variable analysis will align with the high-bracket in the Arrowhead Fair Value Bracket, and likewise in terms of low estimates. The investor will also take into account the Company intangibles – as presented in the first few pages of this document in the analysis on strengths and weaknesses and other essential Company information. These intangibles serve as supplementary decision factors for adding or subtracting a premium in the investor's own analysis.

The bracket should be understood as a tool provided by Arrowhead BID for the reader of this report and the reader should not solely rely on this information to make his decision on any particular security. The reader must also understand that on one hand, global capital markets contain inefficiencies, especially in terms of information, and that on the other hand, corporations and their commercial and technical positions evolve rapidly: this present edition of the Arrowhead valuation is for a short to medium-term alignment analysis (one to twelve months). The reader should refer to important disclosures on page 27 of this report.

## 7. Appendix

### 7.1 Altron's Financial Summary

<b>Exhibit 23: Financial Summary</b>		<i>Low Bracket Estimates</i>						
<i>Year Ending Feb</i>	<b>2019E</b>	<b>2020E</b>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>
Revenue (R MM)	17,260	17,895	19,508	21,227	23,058	24,922	26,948	29,088
Operating Profit (R MM)	522	746	930	1,142	1,382	1,636	1,870	2,062
Net Income (R MM)	105	368	496	649	822	1,004	1,173	1,311
EPS	0.28	0.99	1.34	1.75	2.22	2.71	3.17	3.54
<b>Growth rates (%)</b>								
Revenue		3.7%	9.0%	8.8%	8.6%	8.1%	8.1%	7.9%
Operating Profit		43.0%	24.6%	22.9%	21.0%	18.4%	14.3%	10.3%
Net Income		251.4%	34.7%	30.9%	26.6%	22.3%	16.7%	11.8%
EPS		251.4%	34.7%	30.9%	26.6%	22.3%	16.7%	11.8%
EBITDA		20.3%	13.7%	14.8%	15.0%	14.1%	11.4%	7.9%
<b>Margins (%)</b>								
Gross Margins	31.3%	32.5%	33.0%	33.2%	33.3%	33.4%	33.5%	33.5%
Operating Profit	3.0%	4.2%	4.8%	5.4%	6.0%	6.6%	6.9%	7.1%
Net Profit Margin	0.6%	2.1%	2.5%	3.1%	3.6%	4.0%	4.4%	4.5%
EBITDA Margins	6.4%	7.0%	7.3%	7.7%	8.2%	8.6%	8.9%	8.9%
<b>Ratios</b>								
ROA	5.5%	7.8%	9.4%	10.7%	12.1%	13.2%	13.9%	13.9%
ROE	4.0%	13.0%	15.2%	16.9%	18.0%	18.3%	17.8%	16.8%
Debt/Equity	0.98x	0.86x	0.76x	0.64x	0.53x	0.44x	0.37x	0.31x
Interest Coverage	0.54x	0.39x	0.32x	0.26x	0.21x	0.18x	0.16x	0.14x

<b>Exhibit 24: Financial Summary</b>		<i>High Bracket Estimates</i>						
<i>Year Ending Feb</i>	<b>2019E</b>	<b>2020E</b>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>
Revenue (R MM)	17,481	18,067	19,788	21,633	23,611	25,641	27,856	30,211
Operating Profit (R MM)	700	938	1,147	1,388	1,660	1,948	2,220	2,453
Net Income (R MM)	236	506	652	825	1,021	1,229	1,425	1,592
EPS	0.64	1.37	1.76	2.23	2.76	3.32	3.85	4.30
<b>Growth rates (%)</b>								
Revenue		3.4%	9.5%	9.3%	9.1%	8.6%	8.6%	8.5%
Operating Profit		34.0%	22.2%	21.0%	19.6%	17.4%	13.9%	10.5%
Net Income		114.7%	28.7%	26.6%	23.7%	20.4%	15.9%	11.7%
EPS		114.7%	28.7%	26.6%	23.7%	20.4%	15.9%	11.7%
EBITDA		19.4%	13.6%	14.6%	14.8%	13.9%	11.6%	8.5%
<b>Margins (%)</b>								
Gross Margins	31.7%	33.0%	33.5%	33.7%	33.8%	33.9%	34.0%	34.0%
Operating Profit	4.0%	5.2%	5.8%	6.4%	7.0%	7.6%	8.0%	8.1%
Net Profit Margin	1.3%	2.8%	3.3%	3.8%	4.3%	4.8%	5.1%	5.3%
EBITDA Margins	7.4%	8.0%	8.3%	8.7%	9.2%	9.6%	9.9%	9.9%
<b>Ratios</b>								
ROA	7.3%	9.6%	11.1%	12.4%	13.6%	14.6%	15.1%	15.0%
ROE	8.9%	16.7%	18.0%	19.0%	19.4%	19.2%	18.4%	17.2%
Debt/Equity	0.94x	0.79x	0.68x	0.56x	0.46x	0.38x	0.32x	0.27x
Interest Coverage	0.41x	0.31x	0.26x	0.21x	0.18x	0.15x	0.13x	0.12x

## 7.2 Altron's Balance Sheet Forecast

<b>Exhibit 25: Consolidated Balance Sheet</b>	All figures in R MM, unless stated differently <i>Low Bracket estimates</i>							
<i>Year Ending-Feb</i>	<b>2019E</b>	<b>2020E</b>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>
Total current assets	6,021	6,252	7,062	7,862	8,789	9,826	10,961	12,552
Total non-current assets	3,508	3,342	3,218	3,129	3,071	3,037	3,031	3,069
<b>TOTAL ASSETS</b>	<b>9,529</b>	<b>9,594</b>	<b>10,280</b>	<b>10,991</b>	<b>11,860</b>	<b>12,864</b>	<b>13,993</b>	<b>15,622</b>
Total current liabilities	5,484	5,181	5,314	5,376	5,423	5,422	5,379	5,697
Total non-current liabilities	1,396	1,396	1,454	1,454	1,454	1,454	1,454	1,454
<b>TOTAL LIABILITIES</b>	<b>6,880</b>	<b>6,577</b>	<b>6,768</b>	<b>6,830</b>	<b>6,877</b>	<b>6,876</b>	<b>6,833</b>	<b>7,151</b>
Total shareholder's equity	2,649	3,017	3,512	4,161	4,983	5,987	7,160	8,471
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>9,529</b>	<b>9,594</b>	<b>10,280</b>	<b>10,991</b>	<b>11,860</b>	<b>12,864</b>	<b>13,993</b>	<b>15,622</b>

<b>Exhibit 26: Consolidated Balance Sheet</b>	All figures in R MM, unless stated differently <i>High Bracket estimates</i>							
<i>Year Ending-Feb</i>	<b>2019E</b>	<b>2020E</b>	<b>2021E</b>	<b>2022E</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>
Total current assets	6,141	6,525	7,507	8,497	9,637	10,911	12,308	14,199
Total non-current assets	3,510	3,346	3,226	3,143	3,091	3,065	3,067	3,115
<b>TOTAL ASSETS</b>	<b>9,651</b>	<b>9,871</b>	<b>10,733</b>	<b>11,640</b>	<b>12,728</b>	<b>13,976</b>	<b>15,375</b>	<b>17,315</b>
Total current liabilities	5,475	5,189	5,341	5,422	5,489	5,508	5,483	5,830
Total non-current liabilities	1,396	1,396	1,454	1,454	1,454	1,454	1,454	1,454
<b>TOTAL LIABILITIES</b>	<b>6,871</b>	<b>6,585</b>	<b>6,795</b>	<b>6,876</b>	<b>6,943</b>	<b>6,962</b>	<b>6,937</b>	<b>7,284</b>
Total shareholder's equity	2,780	3,286	3,938	4,764	5,785	7,014	8,439	10,031
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>9,651</b>	<b>9,871</b>	<b>10,733</b>	<b>11,640</b>	<b>12,728</b>	<b>13,976</b>	<b>15,375</b>	<b>17,315</b>

## 8. Analyst Certifications

I, Parvati Rai, certify that all the views expressed in this research report accurately reflect my personal views about the subject security and the subject Company, based on the collection and analysis of public information and public Company disclosures.

I, Sumit Wadhwa, certify that all the views expressed in this research report accurately reflect my personal views about the subject security and the subject Company, based on the collection and analysis of public information and public Company disclosures.

### Important disclosures

Arrowhead Business and Investment Decisions, LLC has received fees and will receive fees in 2018 from Altron for researching and drafting this report and for a series of other services to Altron including distribution of this report and networking services. Neither Arrowhead BID nor any of its principals or employees own any long or short positions in Altron. Arrowhead BID's principals intend to seek a mandate for investment banking services from Altron and may receive compensation for investment banking activities for Altron in 2018 or 2019.

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Investors are advised to gather and consult multiple sources of information while preparing their investment decisions. Recipients of this report are strongly advised to read the Information on Arrowhead Methodology section of this report to understand if and how the Arrowhead Due Diligence and Arrowhead Fair Value Bracket integrate alongside the rest of their stream of information and within their decision-making process.

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## 9. Notes and References

<sup>i</sup> Source: Bloomberg: 52 weeks – July 05, 2018 to July 05, 2018

<sup>ii</sup> Source: Bloomberg: 3 months – April 05, 2018 to July 05, 2018

<sup>iii</sup> Arrowhead Business and Investment Decisions Fair Value Bracket – AFVBTM. See information on valuation on pages 28-29 of this report and important disclosure on page 33 of this report

<sup>iv</sup> Source: Company Filings, Company Website and Press releases

<sup>v</sup> Source: Company Website and Company Filings

<sup>vi</sup> Source: Company Filings

<sup>vii</sup> Source: Company Filings

<sup>viii</sup> Source: Company Filings

<sup>ix</sup> Source: Company Filings

<sup>x</sup> Source: Company Filings

<sup>xi</sup> Source: Company Filings

<sup>xii</sup> Source: Company Filings

<sup>xiii</sup> Source: Company Filings

<sup>xiv</sup> Source: Company Filings

<sup>xv</sup> Source: Company Filings

<sup>xvi</sup> Source: Company Filings

<sup>xvii</sup> Source: Company Website

<sup>xviii</sup> Source: Company Website, Company filings

<sup>xix</sup> Source: Company filings

<sup>xx</sup> Source: Company filings

<sup>xxi</sup> Source: Company Website, Company filings

<sup>xxii</sup> Source: Company filings

<sup>xxiii</sup> Source: Company filings

<sup>xxiv</sup> Source: Company Website

<sup>xxv</sup> Source: Company Website, Factiva

<sup>xxvi</sup> Source: Company Website

<sup>xxvii</sup> Source: Statista

<sup>xxviii</sup> Source: Statista

<sup>xxix</sup> Source: Statista

<sup>xxx</sup> Source: IDC (<https://www.idc.com/getdoc.jsp?containerId=prUS42371417> )

<sup>xxxi</sup> Source: Gartner (<https://www.gartner.com/newsroom/id/3815165> )

<sup>xxxii</sup> Source: Statista (<https://www.statista.com/statistics/607716/worldwide-artificial-intelligence-market-revenues/>)

<sup>xxxiii</sup> Source: Statista

<sup>xxxiv</sup> Source ITU Report 2017

<sup>xxxv</sup> Source: Bloomberg

<sup>xxxvi</sup> Source: Bloomberg

<sup>xxxvii</sup> Source: Bloomberg

<sup>xxxviii</sup> Source: Company filing

<sup>xxxix</sup> Source: Bloomberg