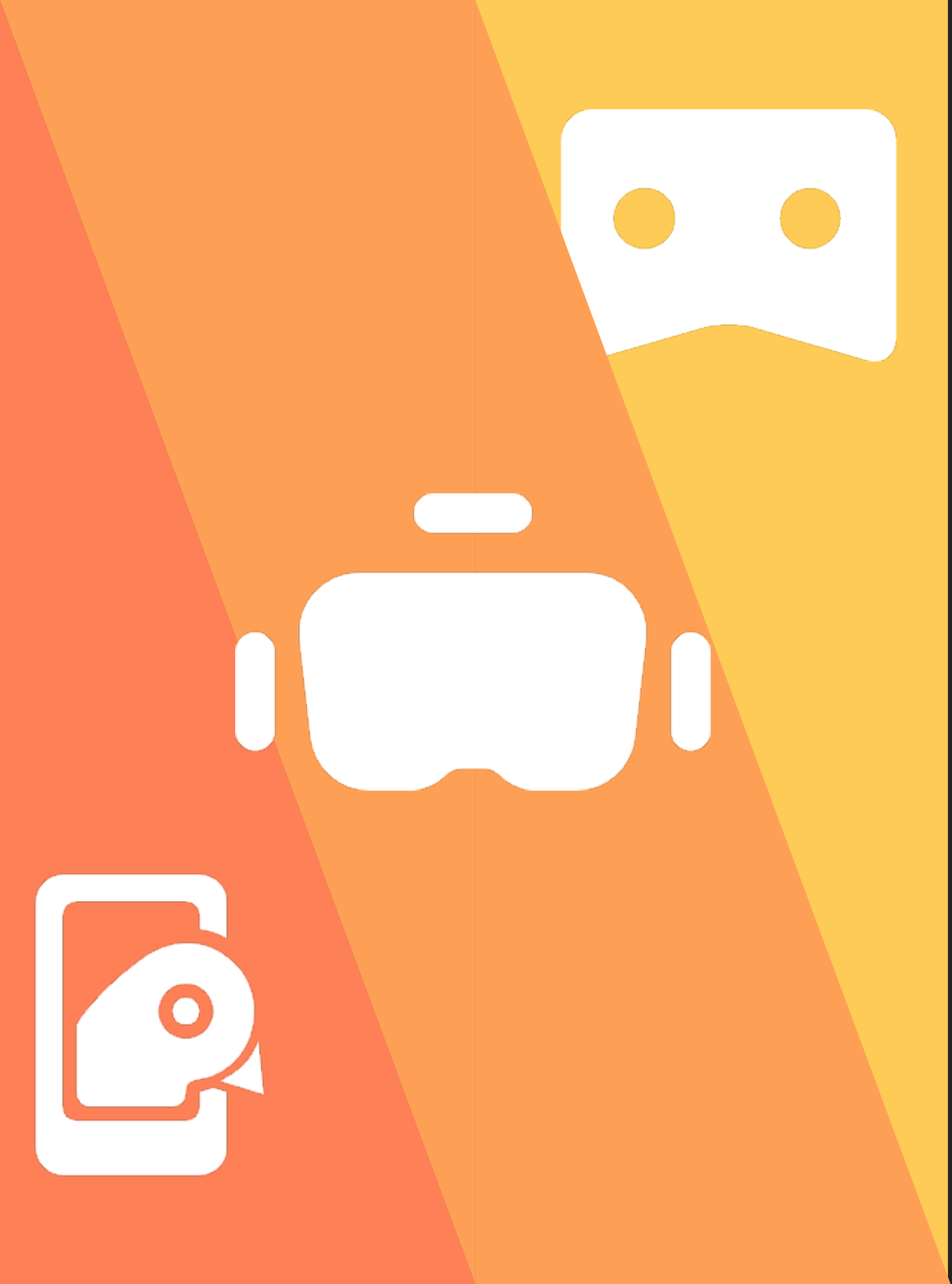
2020 VRCORE

China XR Developer Report



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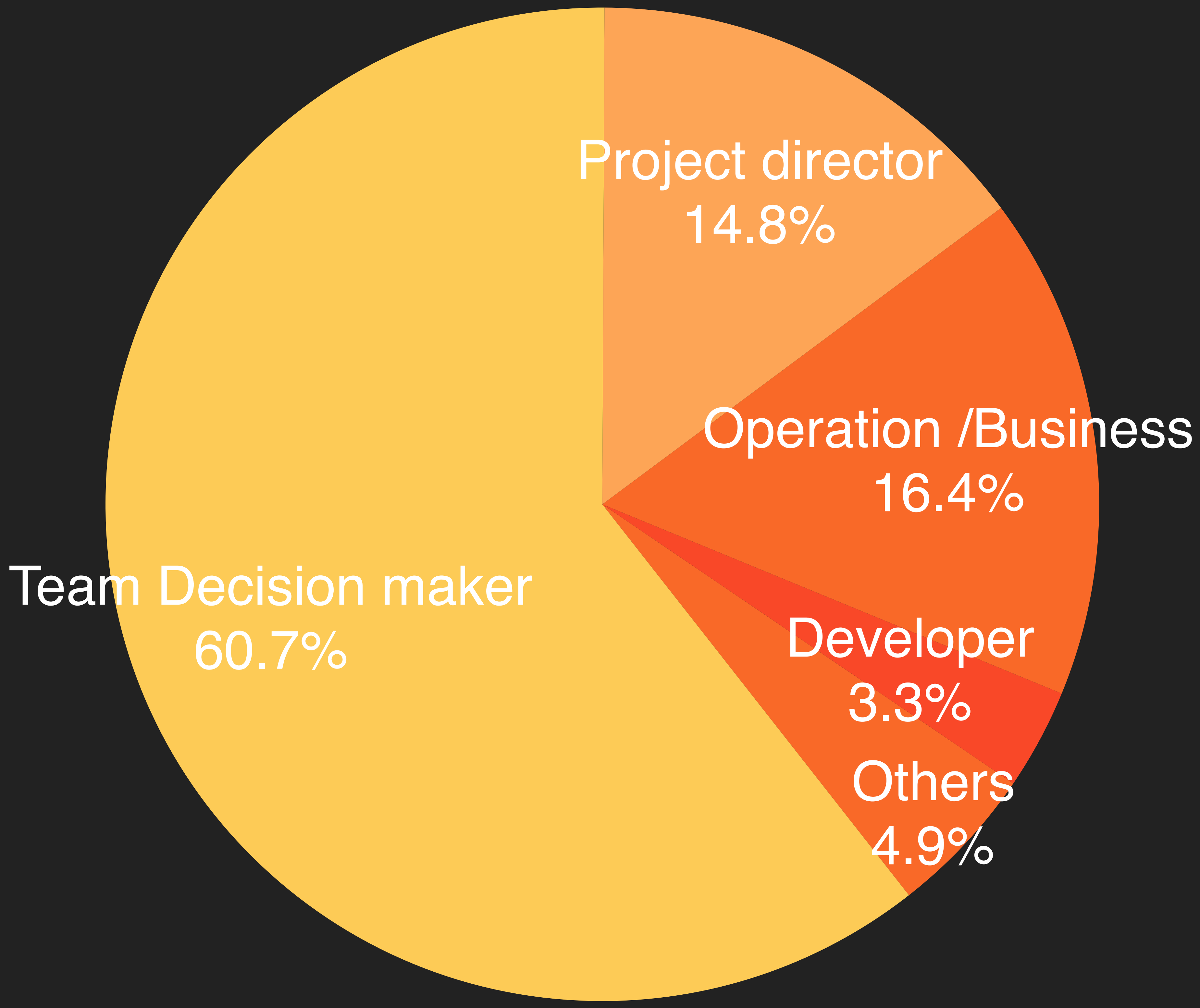
FOREWORD

THE PROPORTION OF DEVELOPER'S POSITIONS PARTICIPATING IN THE SURVEY



For the XR industry, 2019 is a relatively stable year. From the hardware point of view, on the one hand, VR devices are gradually upgrading to inside-out and standalone devices; on the other hand, a new generation of head-mounted AR devices also begin to enter the market, providing more platforms and more choices for developers. With 5g becoming the key word of VR industry in the past year, VR industry is also looking forward to new technology to expand more consumers.

In order to show the whole industry the appearance of content developers in 2019 and the plan for 2020 more visually, VRCORE conducted a questionnaire survey in April 2020. Team decision makers account for 60.7% of the respondents, which basically represents the overall appearance and development trend of China VR content R&D teams.

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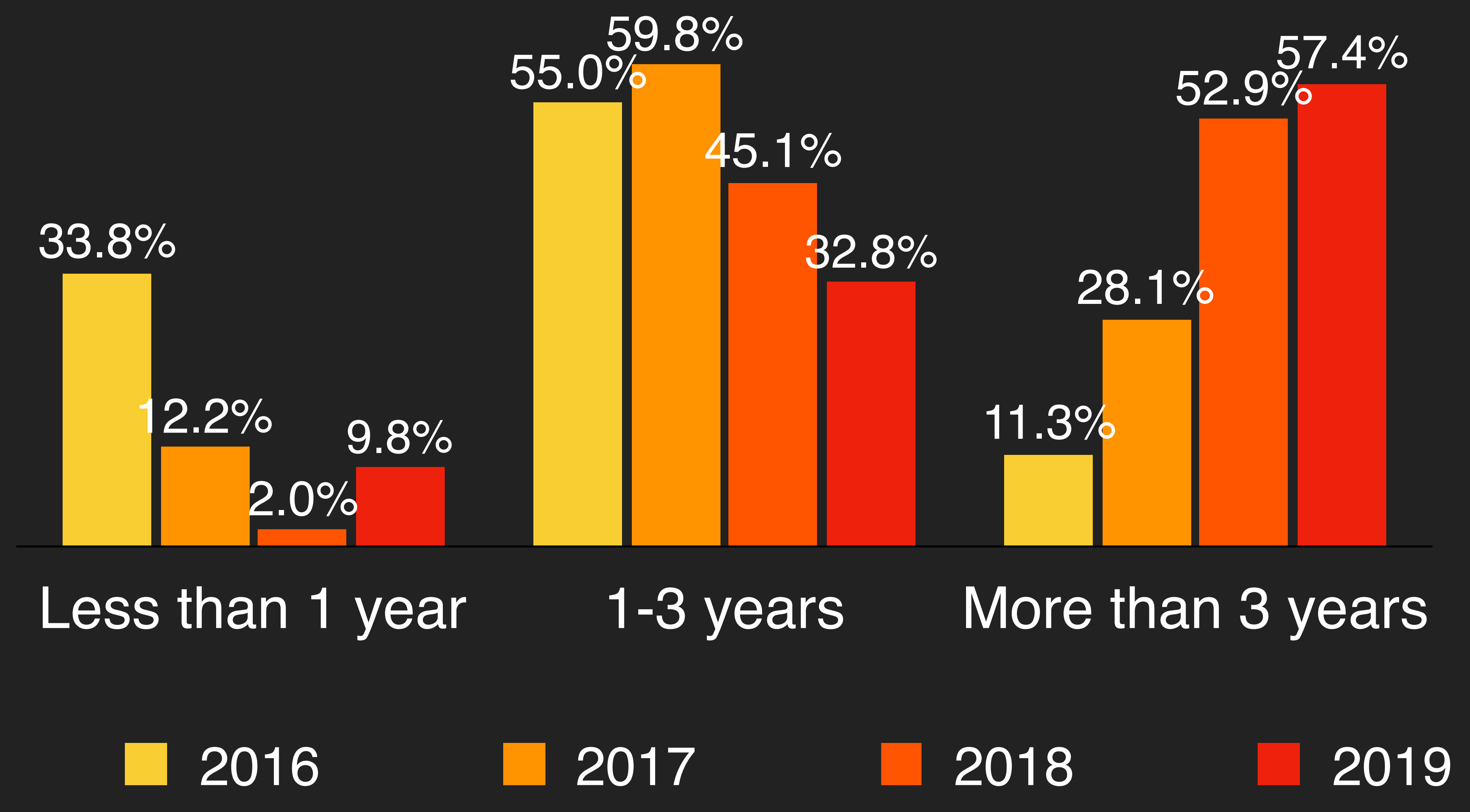
GRADUALLY FORMED INDUSTRY PATTERN

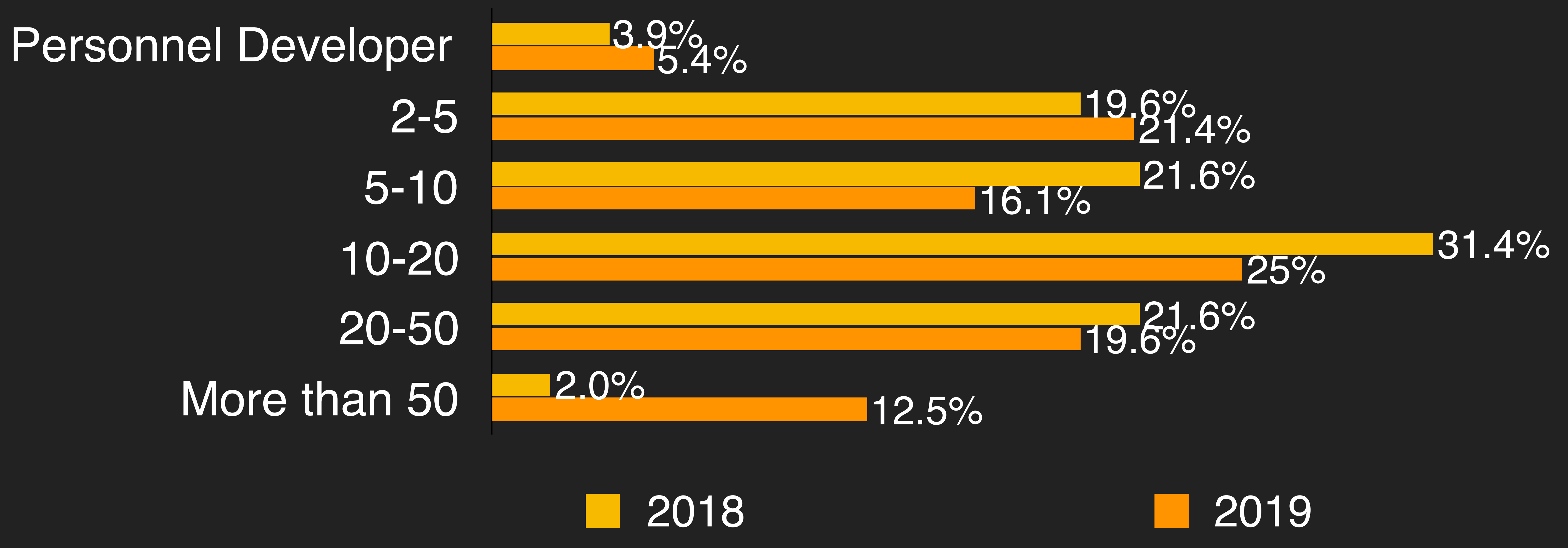
Situation of XR Content Team

BACKGROUND AND SCALE

Duration of Working in VR Team until 2019



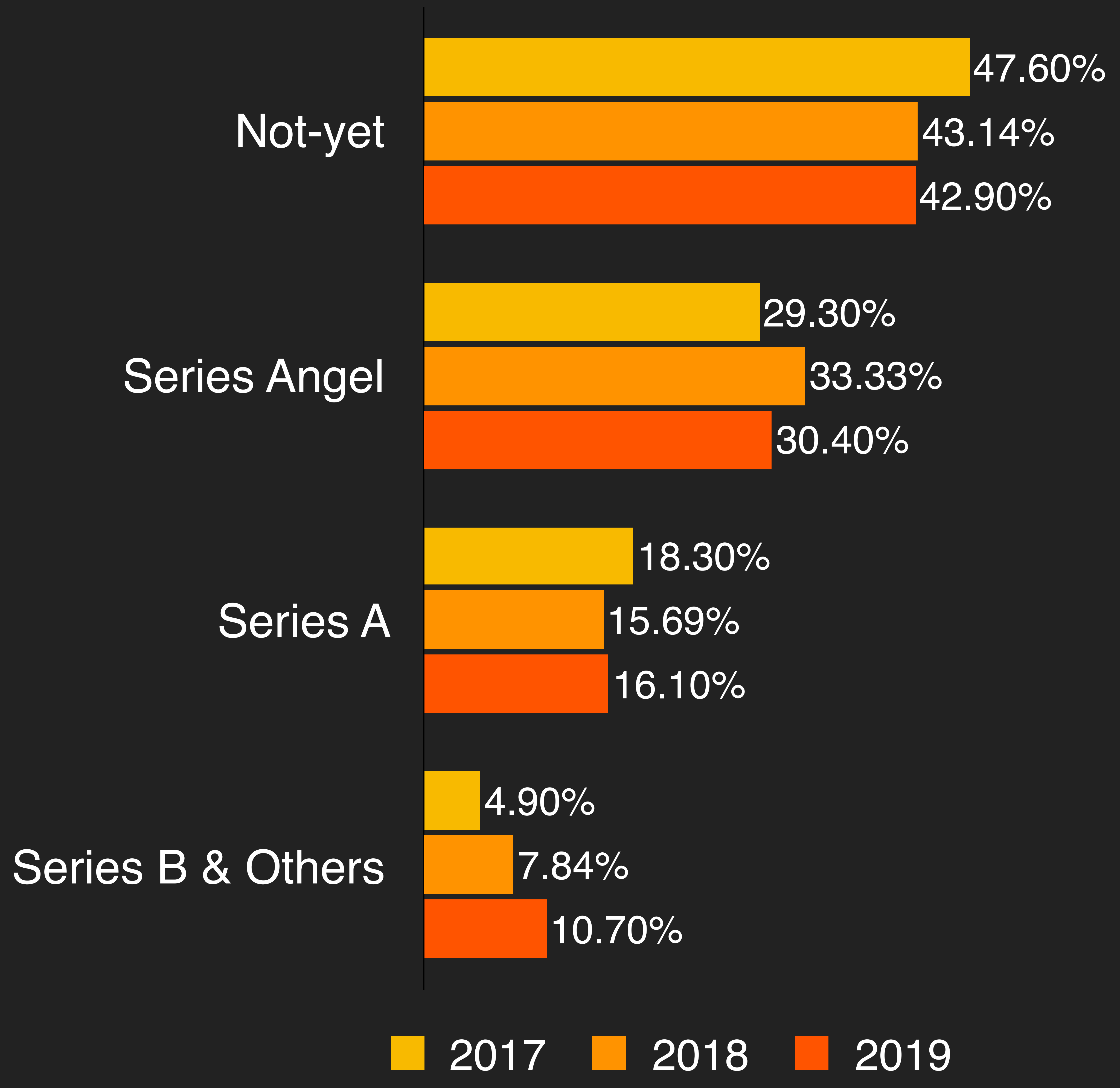
Team Scale in 2019



- After a downturn in the industry, new teams have begun to join the VR content development industry in 2019.
- For the former medium-sized (10-50 person) team, the team with stable business support began to gradually expand the team size, while the team failed to obtain stable business support began to reduce the team size. In the future, the differentiation of team size will gradually expand with the accumulation of business.

Financial Situation

Financing in 2019

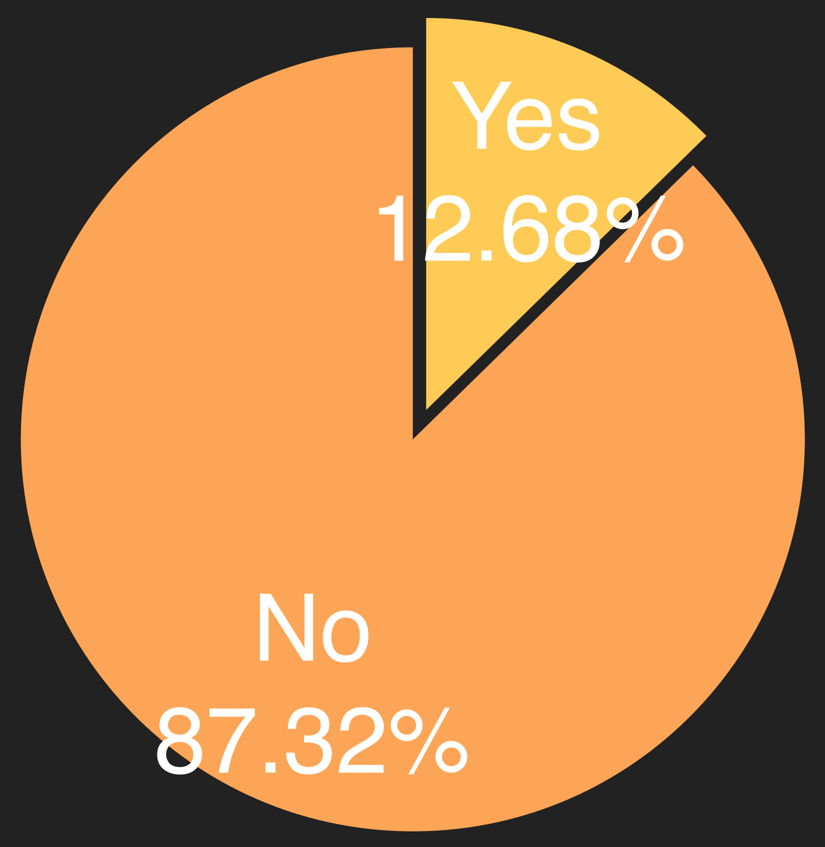


- In terms of financing, there are still a small number of content teams favored by capital in 2019, and the financing teams mainly focus on angel investment. Overall, the whole pattern of team financing has not changed too much；

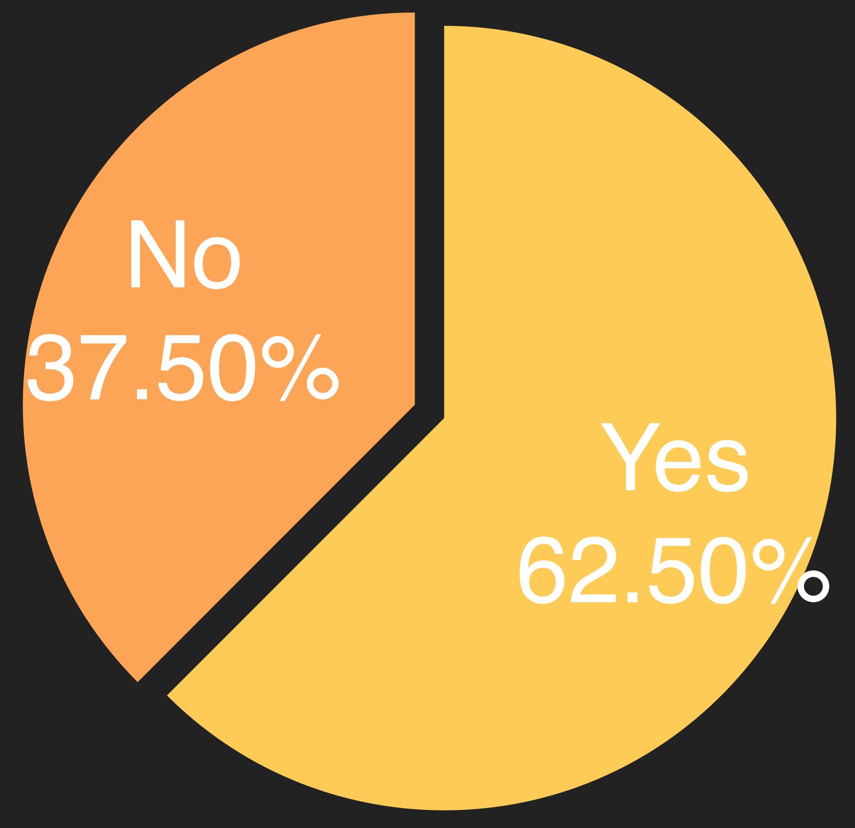
- Follow the trend shown in the chart that the odds of content teams getting financing will get smaller and smaller；

- The content team still has positive financing intentions in 2020.

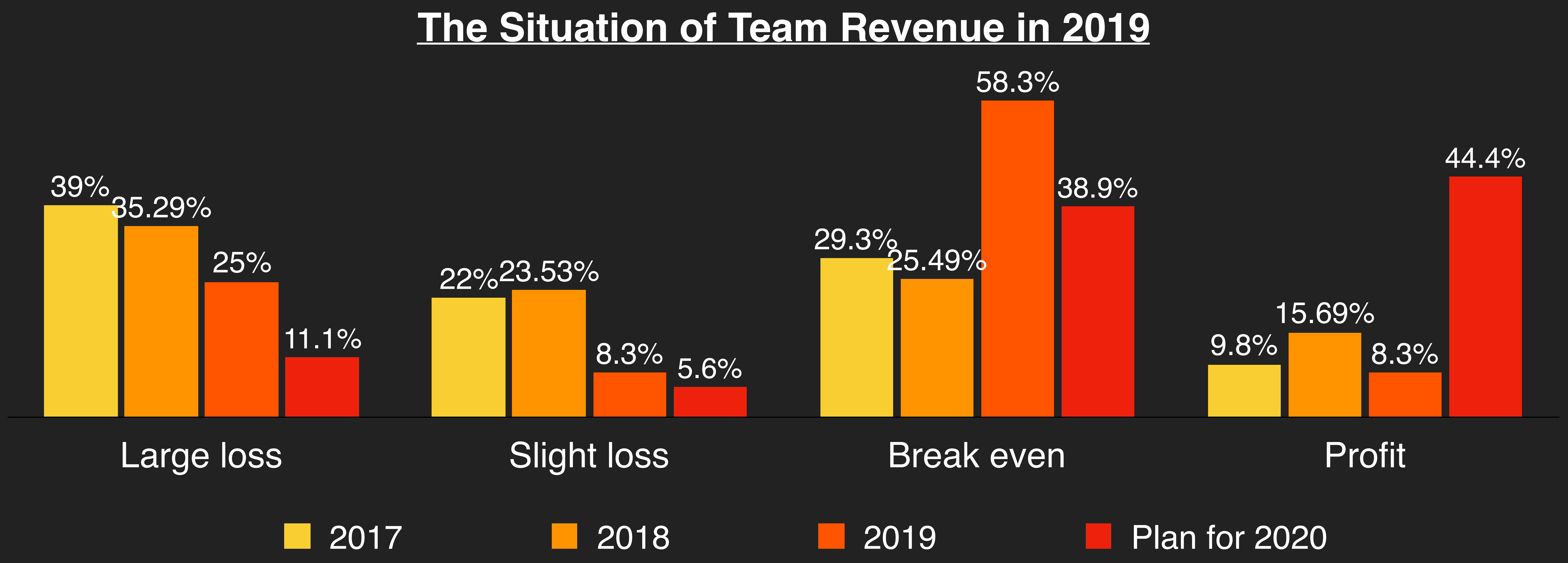
FINANCING SITUATION IN 2019



FINANCING PLAN IN 2020



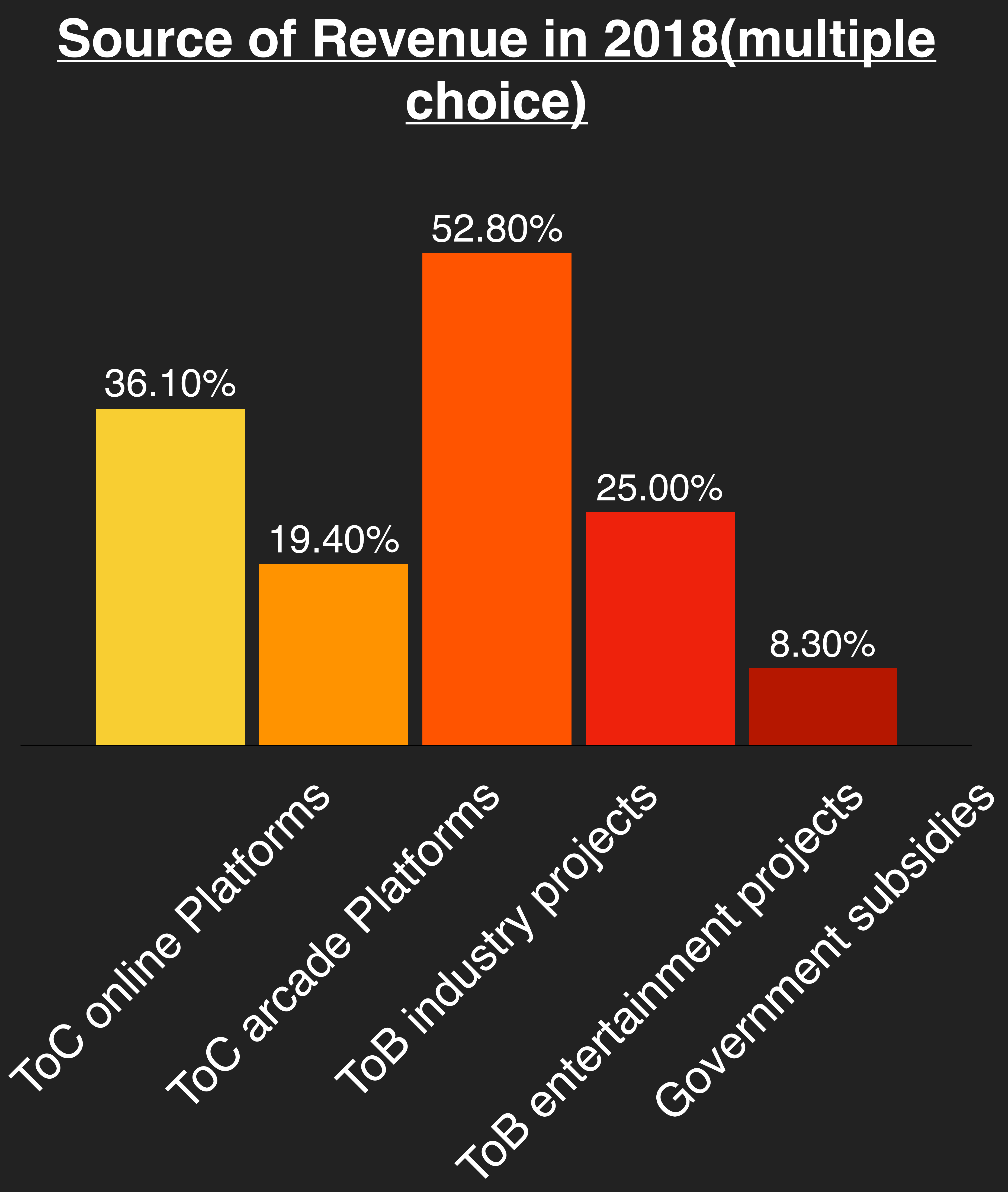
Financial Situation



- In 2019, the break even team is the highest figure in recent years, reaching 60%. However, the team that cannot achieve self-creation and obtain stable business were eliminated on a large scale；

- At the same time, the proportion of profitable teams decreased。

Financial Situation



- At present, the ToB project still the main revenue source of the content team. Among them, the ToB industry project occupies the main position；
- For theToC Market, online platforms are more important than offline platforms. On the one hand, the number of online users is increasing and the ToC online market is gradually expanding; on the other hand, offline platforms are rapidly transforming from small individual experience stores to large chain experience stores, thus gradually shrinking the offline platform market.

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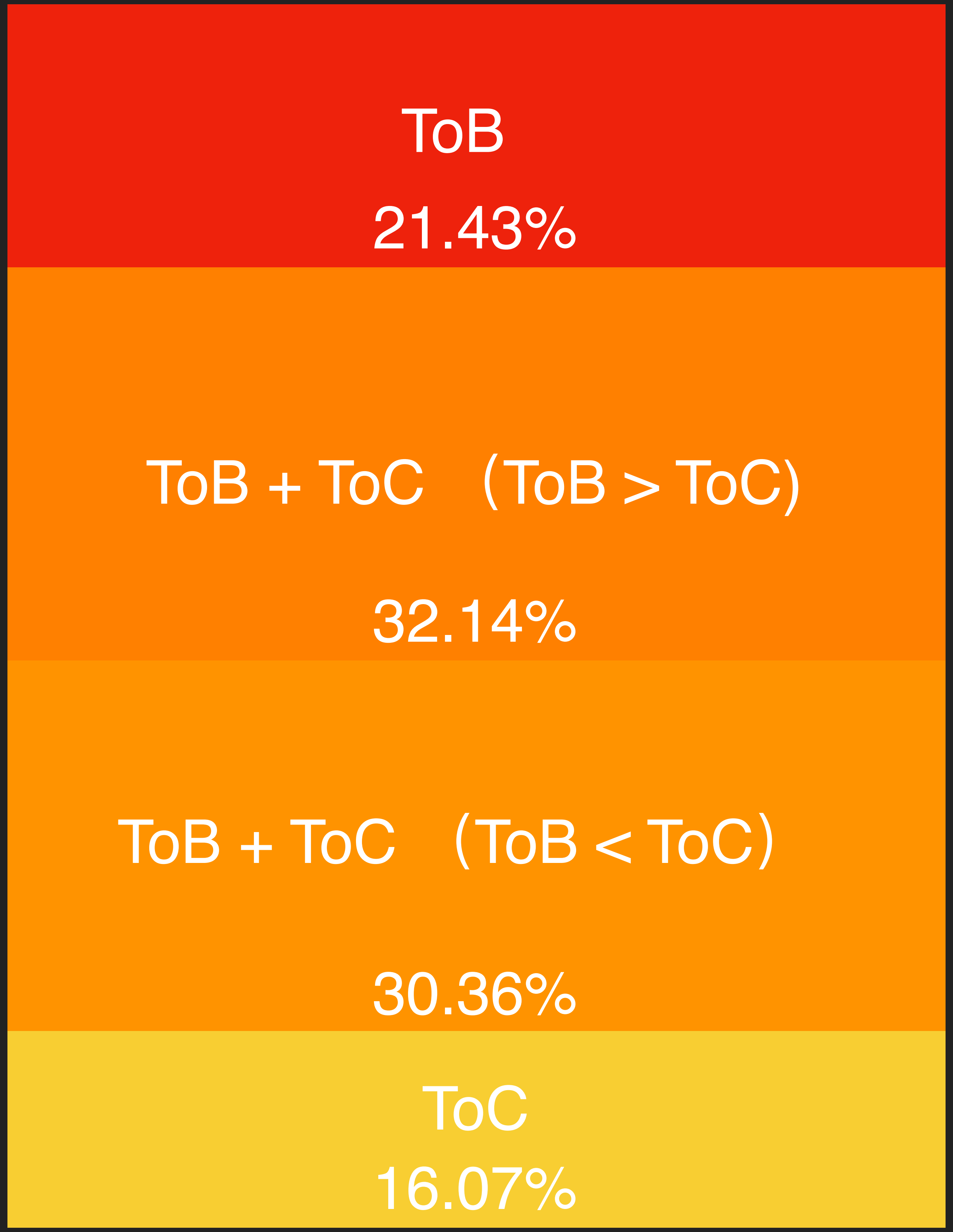
THE DUAL-LANE

Business development direction of XR content team

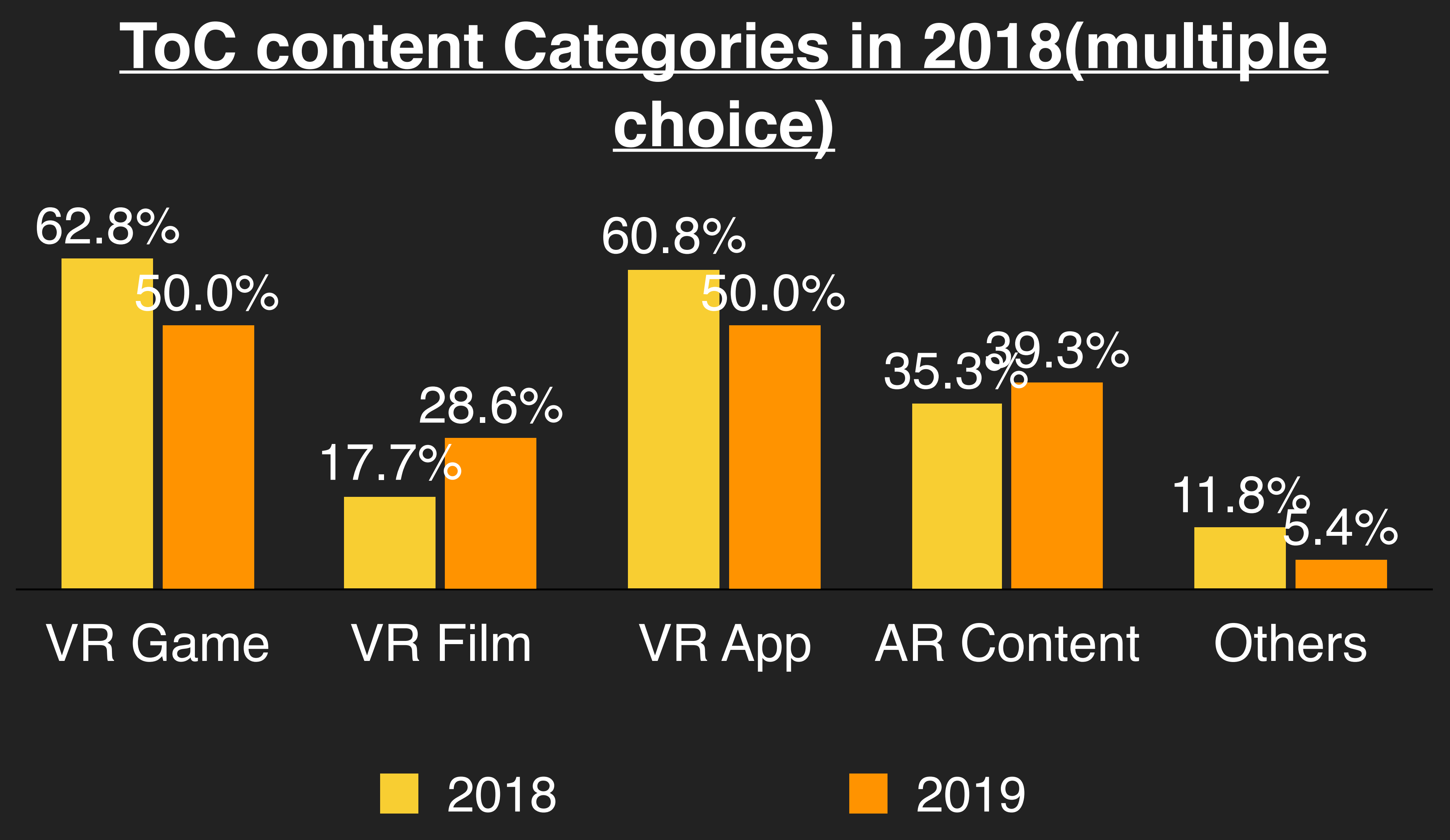
BUSINESS PATH

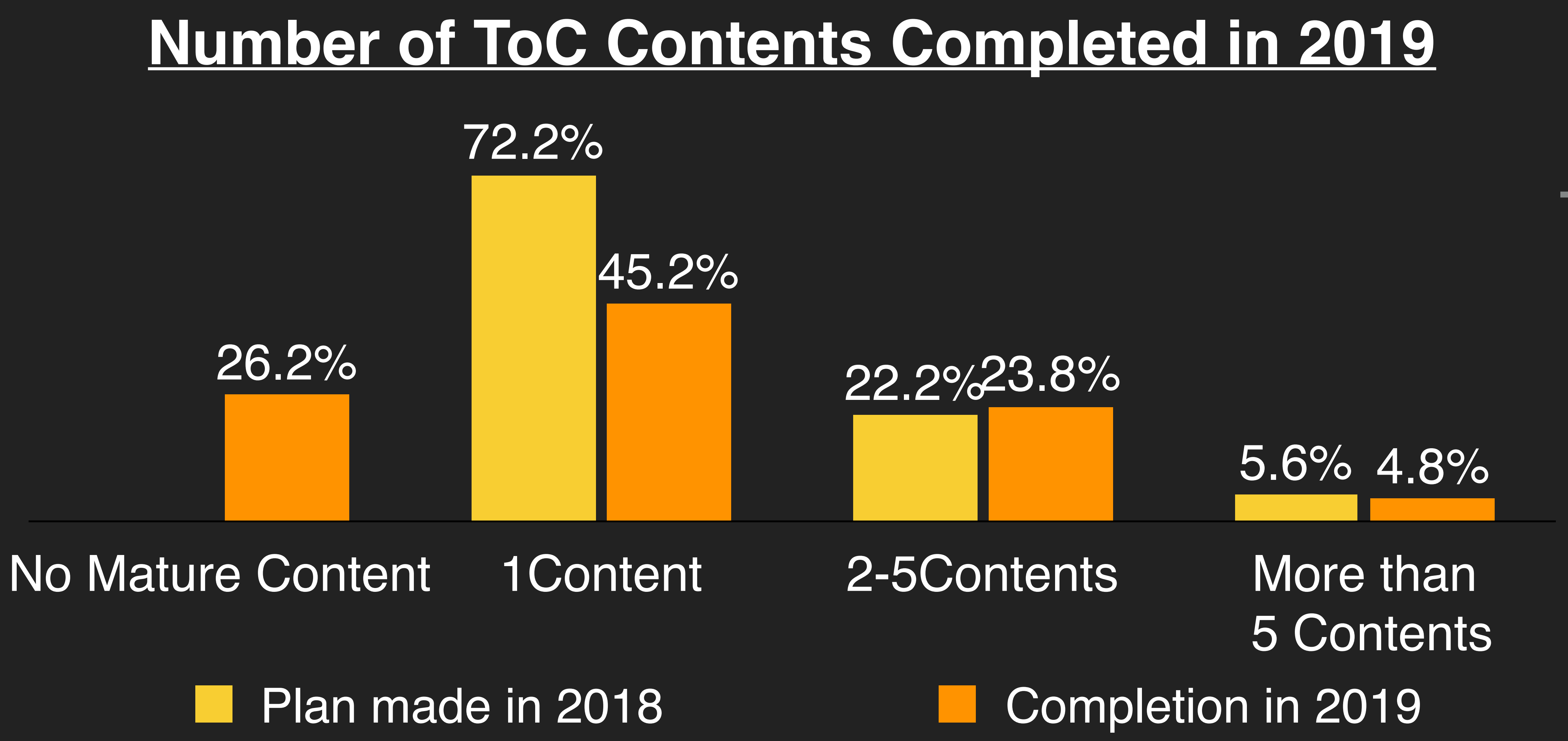
Business Direction in 2019



- In 2019, with the improvement of the team's financial situation, some teams start to try to develop the ToC content again. But overall, the cash flow from ToB remains critical to the content team, so the team only doing ToC content is actually decreased compared with that in 2018 (22%)；
- It can be predicted that after the market and industry more mature, the business differentiation more clear, ToB and ToC business will be further separated in the future

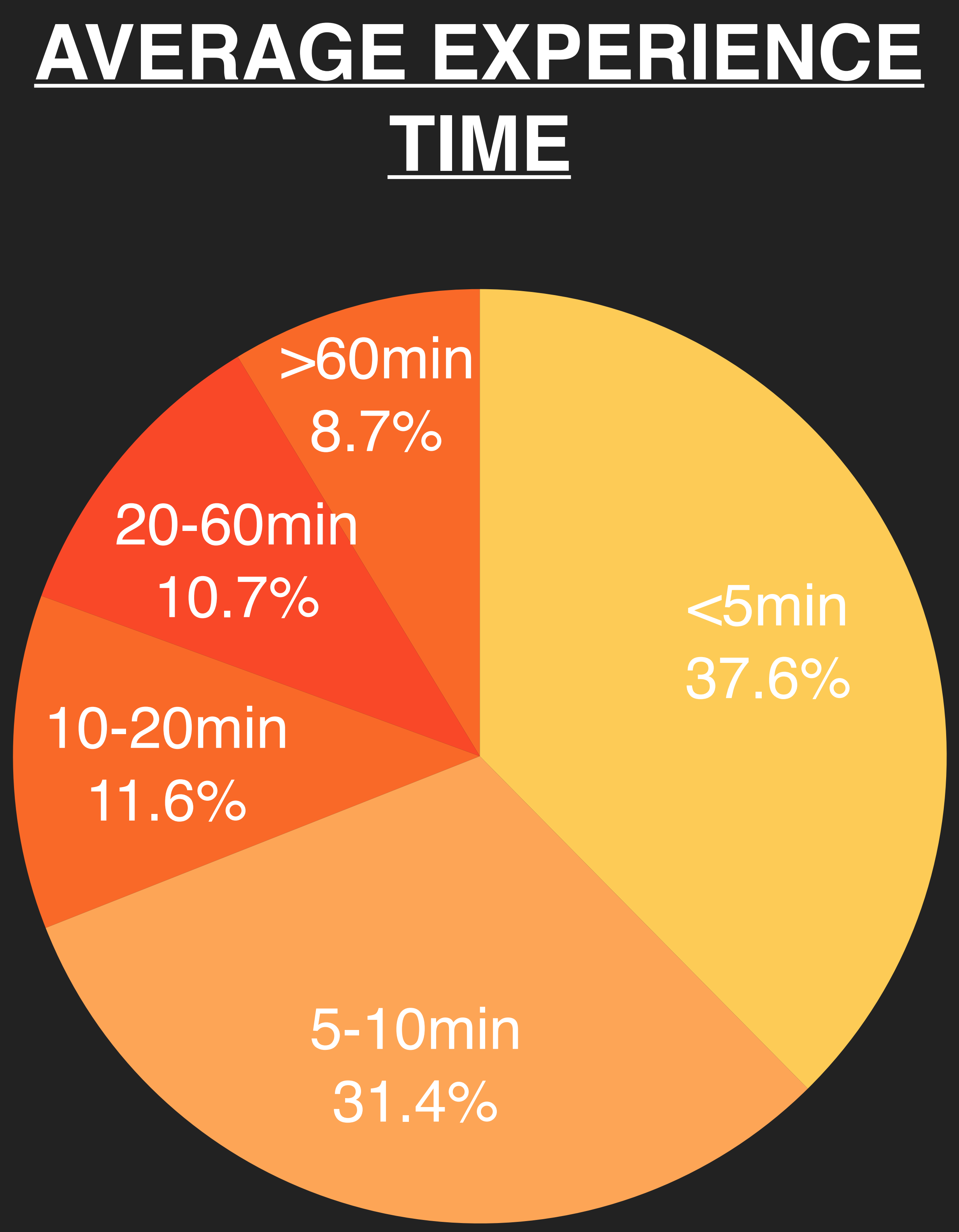
TOC BUSINESS DIRECTION





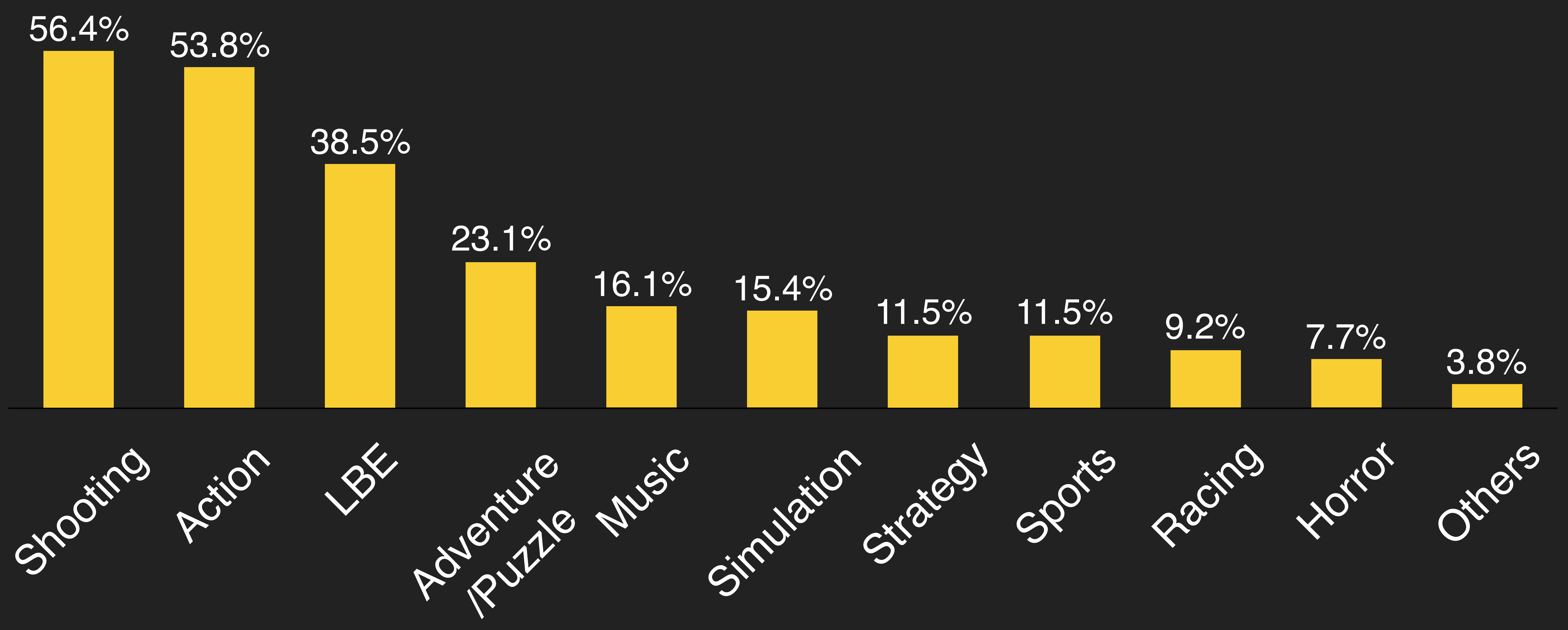
- At present,ToC game content is still the dominant position, but the proportion of ToC film content was increased in 2019.This is not only because the original ToC game production team is more inclined to transform the production of ToB content, but also because of the relatively low cost of real shooting content in the ToC film content, which is easier to take into account；

- Due to the increase in the number of film content, the average experience time of content has decreased compared with the previous year.

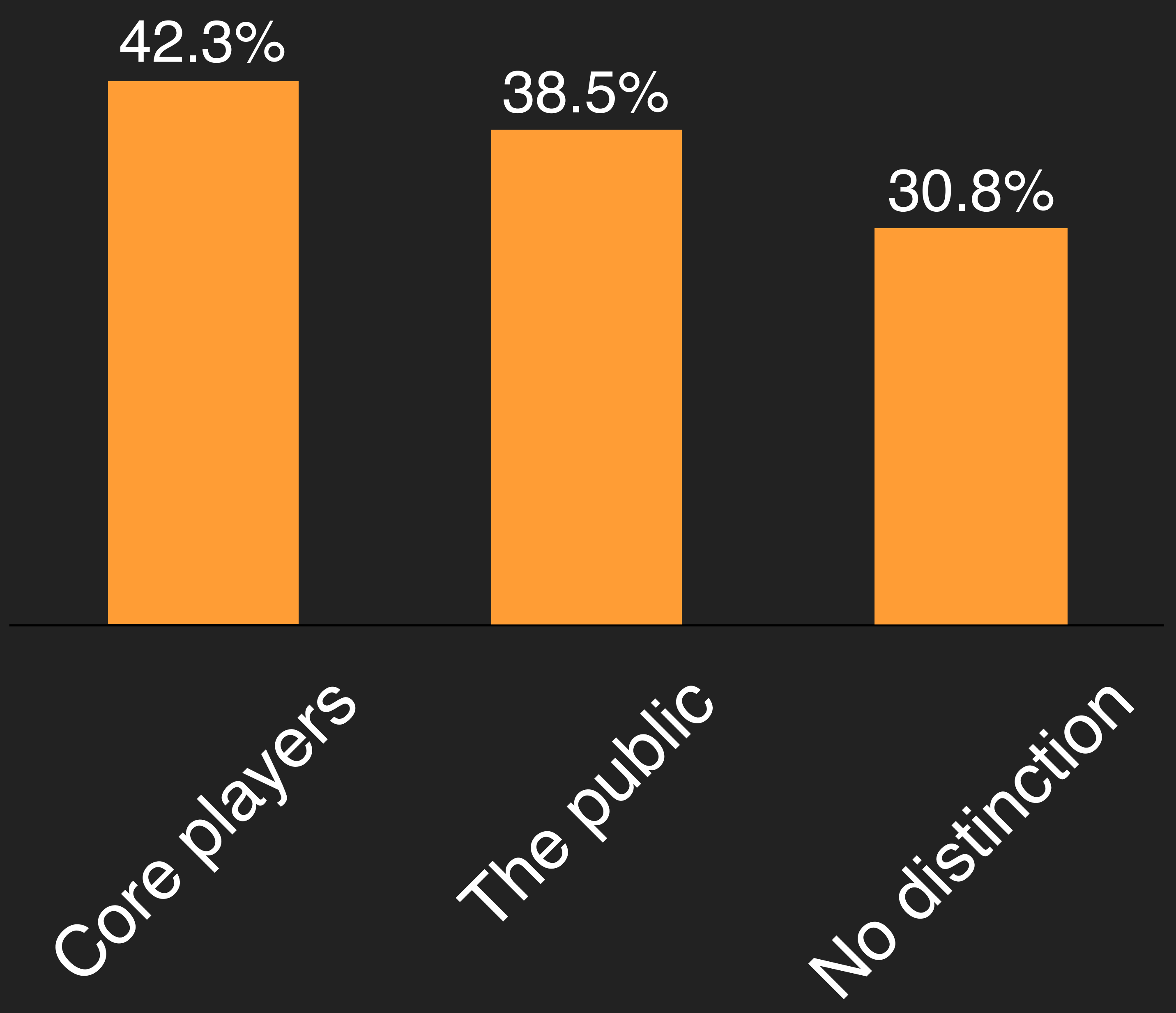


TOC VR GAMES

Genre of VR Games Made by Content Teams in 2019(multiple choice)



Target Group of ToC Game Contents



- In the field of ToC game contents, shooting and action are still stable in the top two；

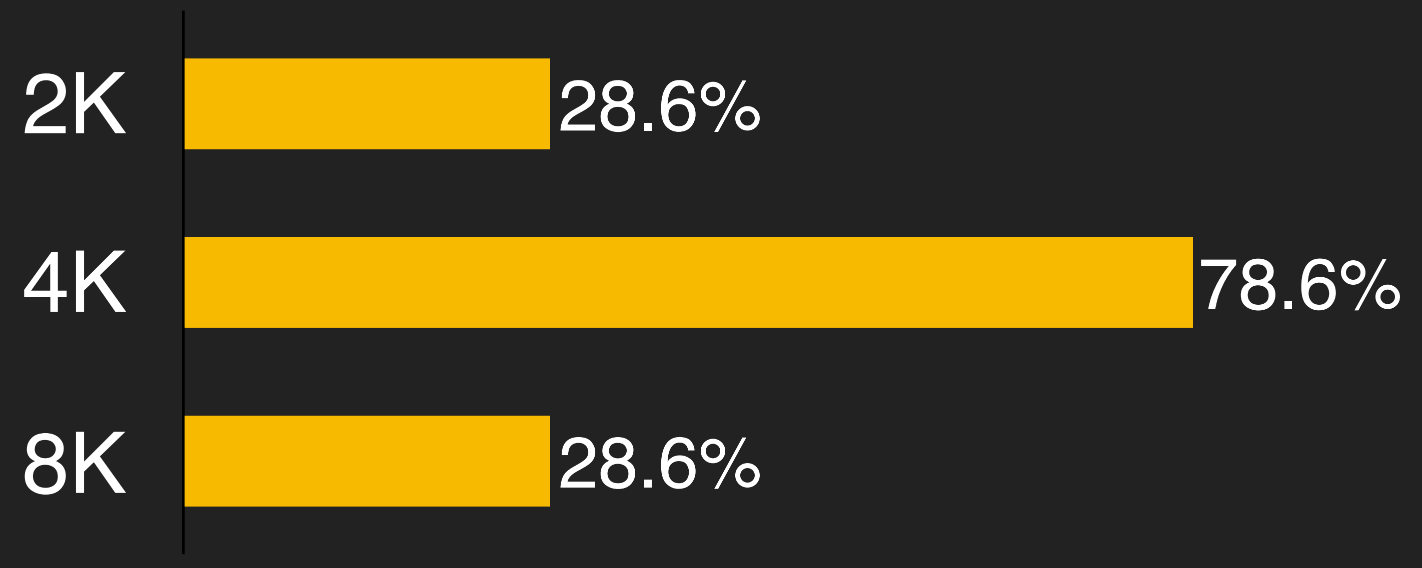
- Because of the rapid expansion of LBE(Location-Based Entertainment),40% of the content teams began to try to develop the LBE；

- At present, there are still many games that do not distinguish the target groups. We suggest that developers can distinguish the target groups as soon as possible and find the target customers of their own games. This will help the game stand out from the fierce competition on online platforms.

TOC VR FILM

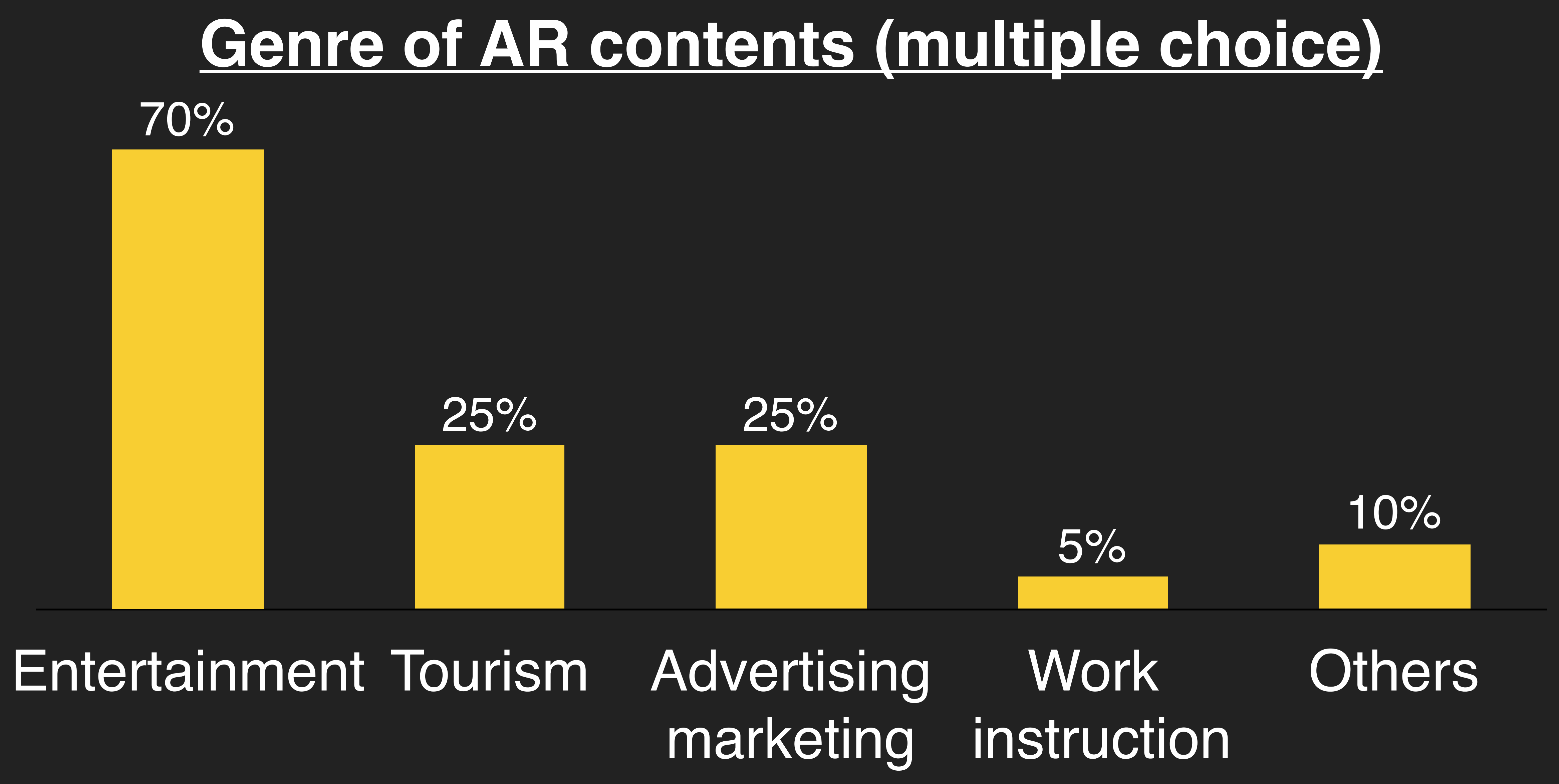
Genre of VR Film in 2019(multiple choice)

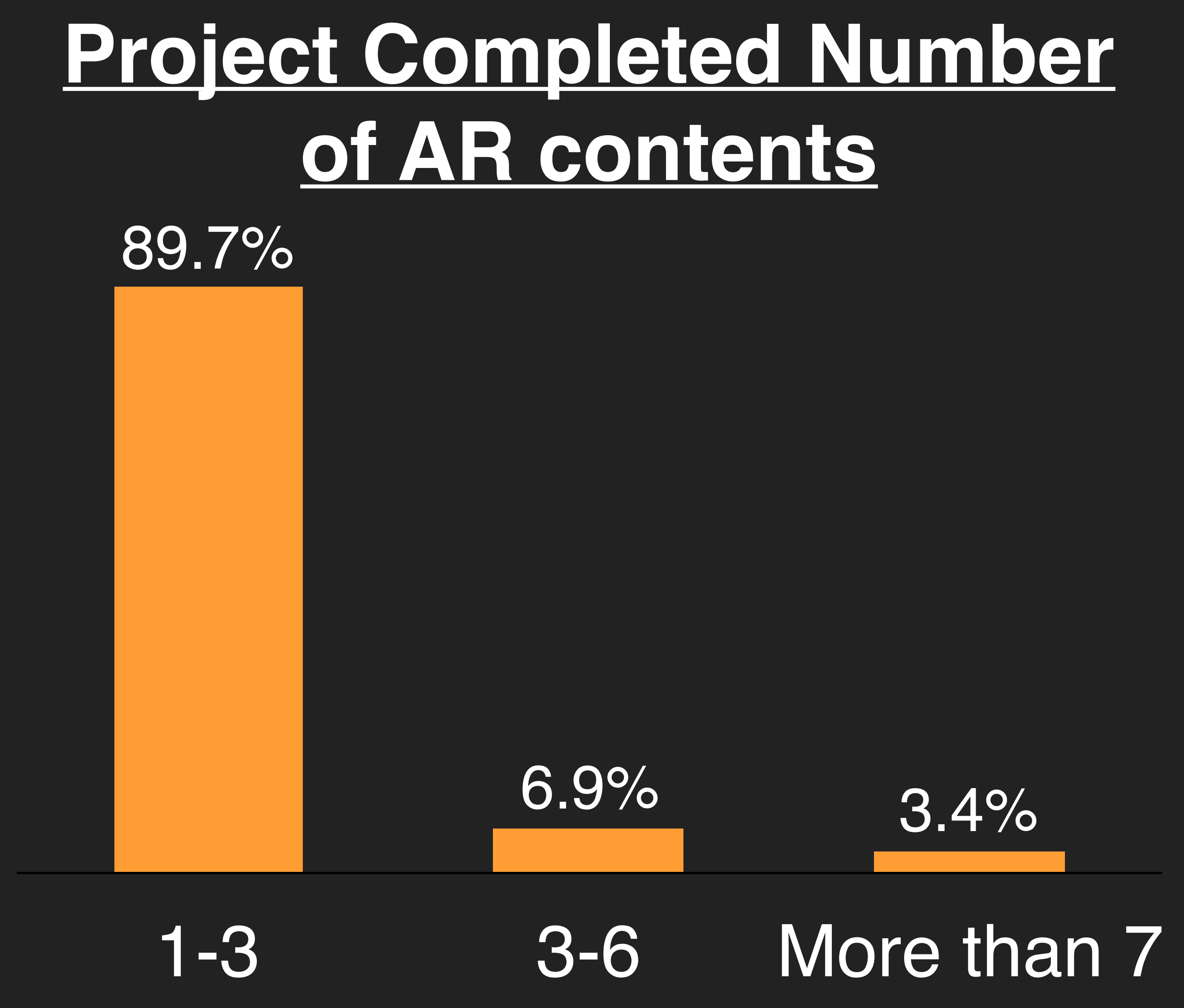
Resolution of VR Film



- In the content of TOC VR film, there is little difference among various types；
- The resolution of film content is mainly 4K, which is supported by the mainstream hardware devices at present.With the update of hardware, the resolution of film content will increase simultaneously in the future.

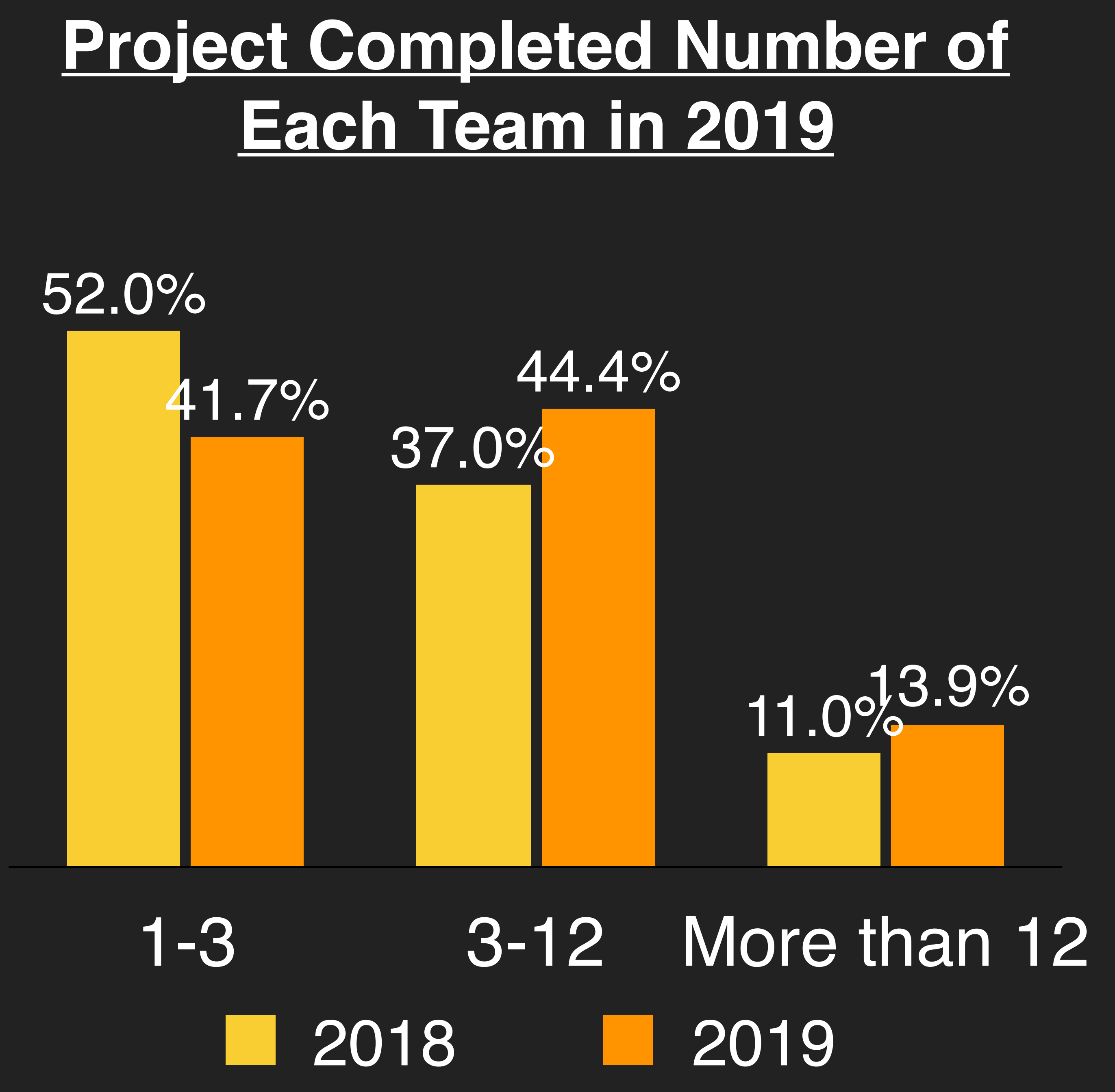
TOC AR CONTENT

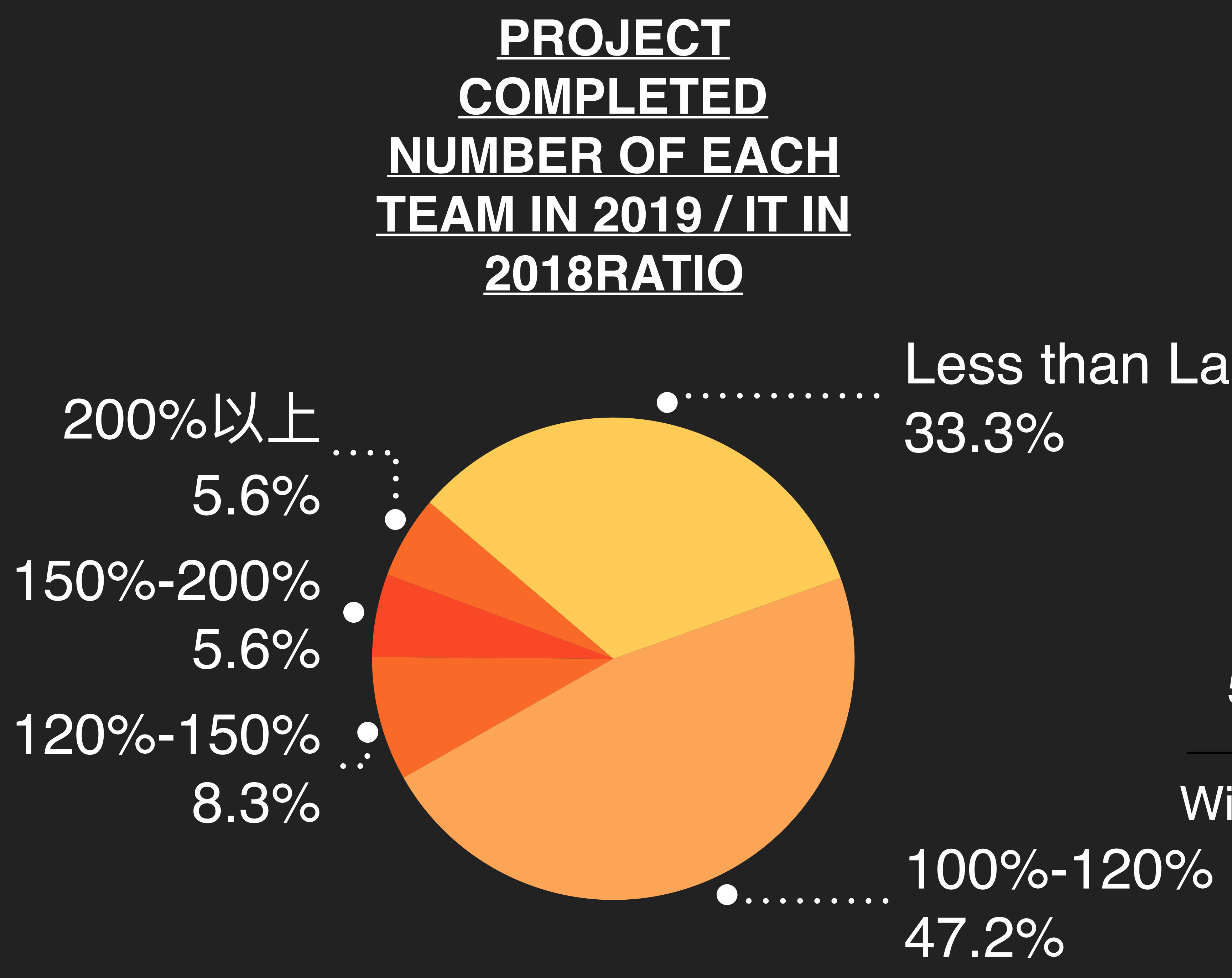


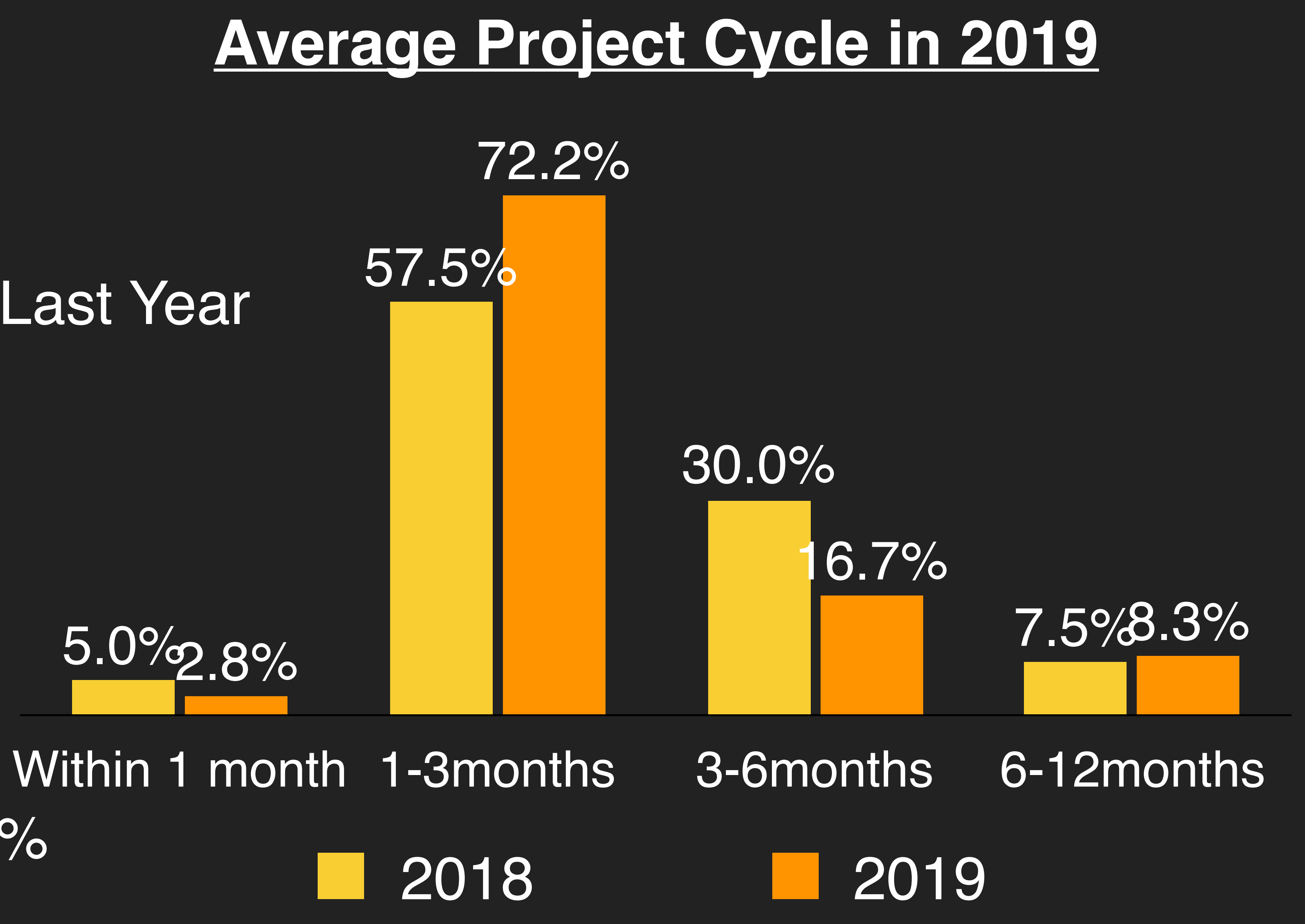


- With a large amount of entertaining AR content facing the consumer market, AR content has become an important part of ToC content;
- Most of the ToC AR content teams have completed 1-3 titles in the past year.

TOB CONTENTS SITUATION

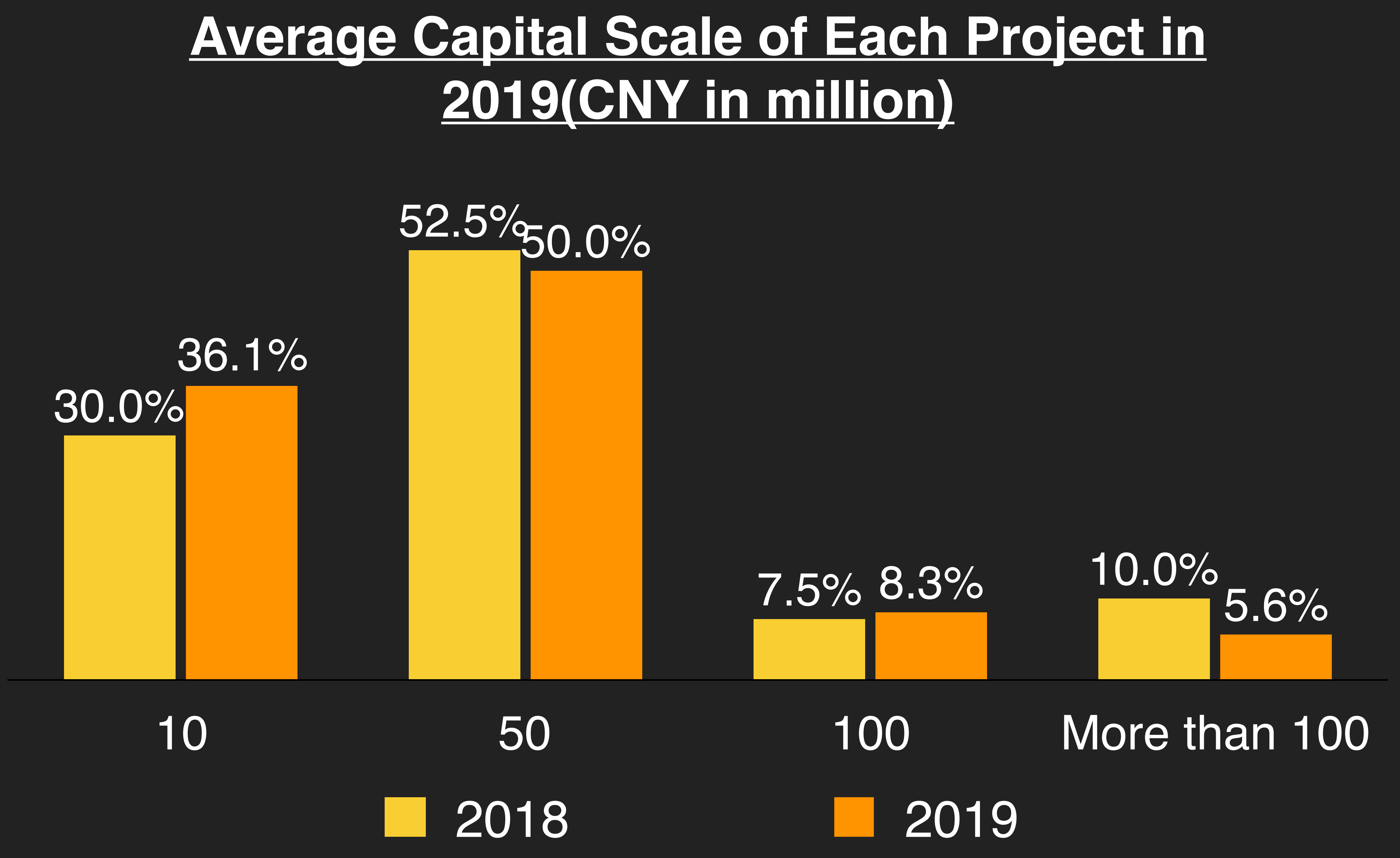


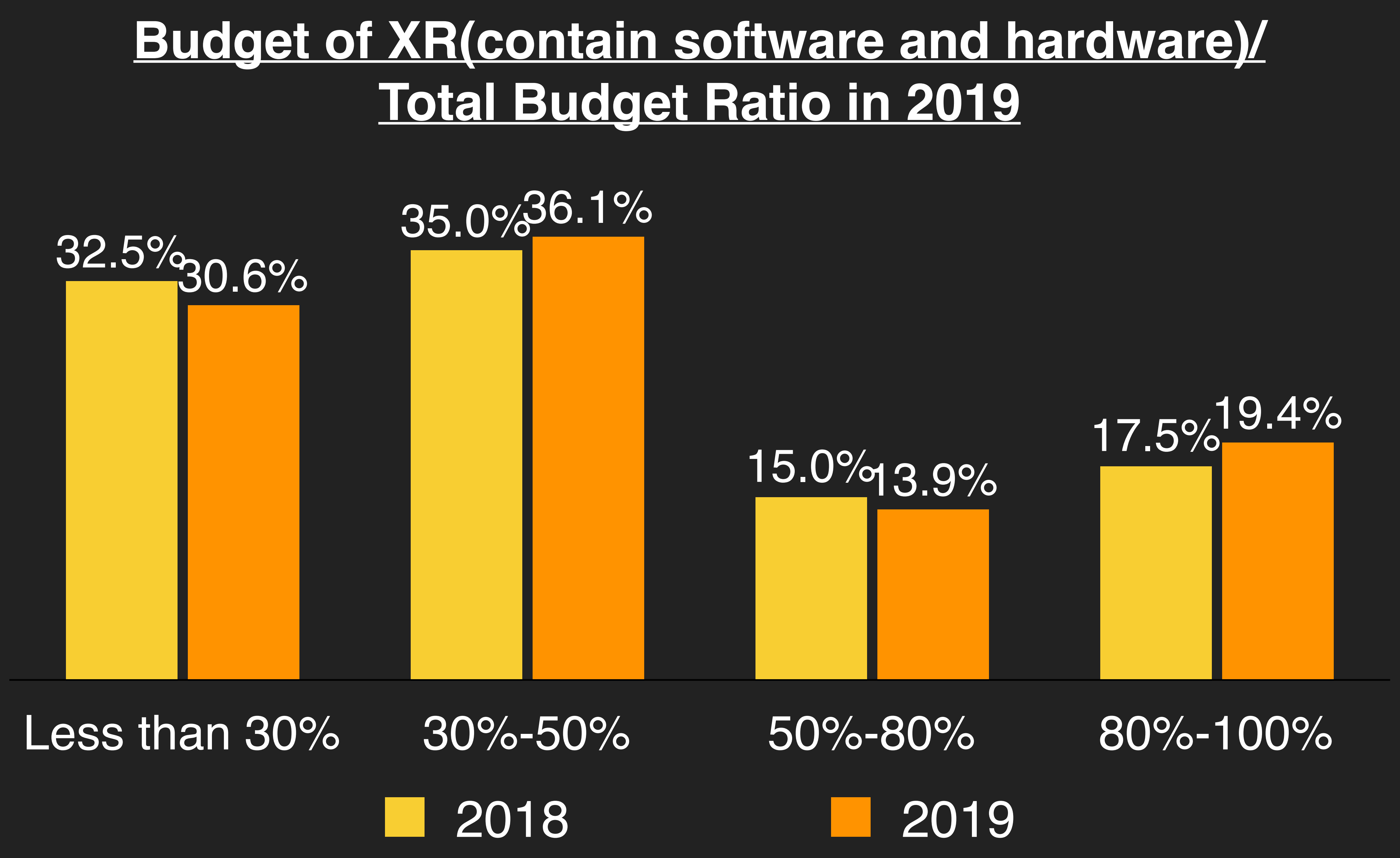




- In the ToB contents, the number of orders received by the content team generally has increased in 2019 , only about 30% of the content team projects decreased in 2019;
- At the same time, the R & D cycle of the project is shortening. Projects cycle within three months account for 75%.

TOB CONTENTS SITUATION

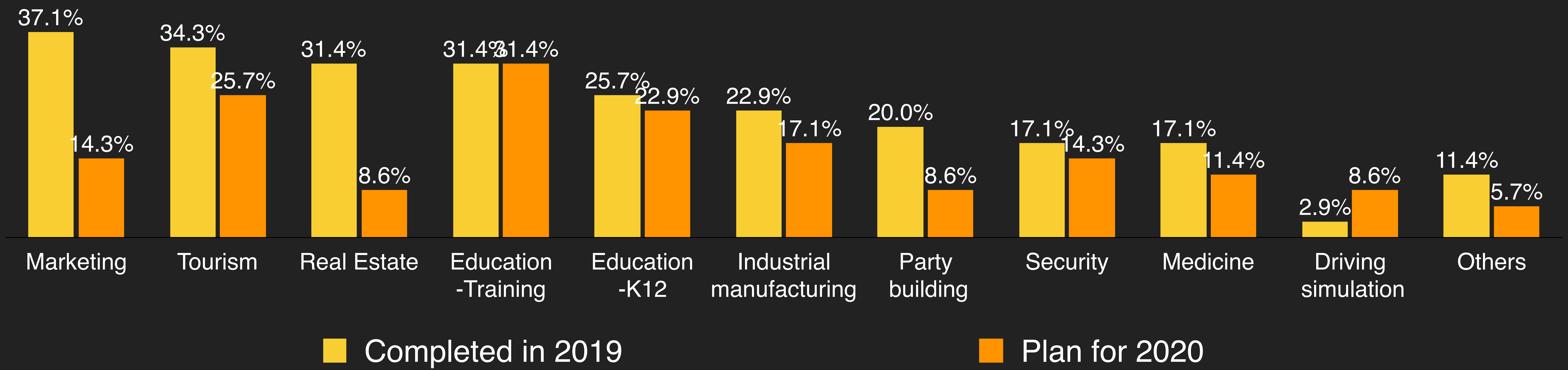




- In terms of the budget, XR projects are still in the minority, and slightly decreased compared with 2018；
- From the overall of the project, the XR project is not the main part.Only about 30 % of the XR budget is more than half of the total budget. For more projects, the XR part still exists as multimedia.

TOB PROJECTS

ToB Project Categories in 2019 (multiple choice)



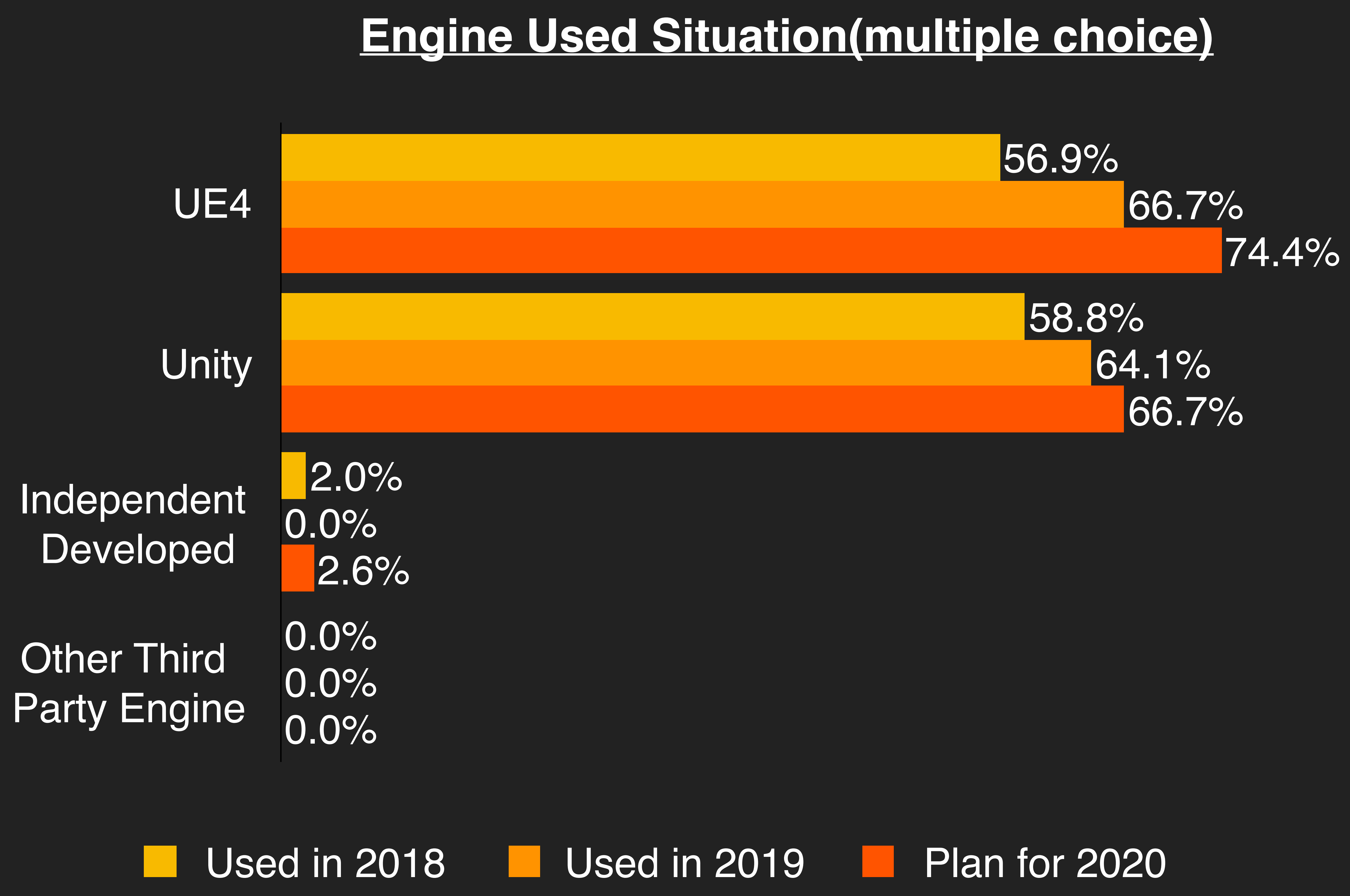
- In terms of industry, Marketing, Tourism, Real Estate, Education are the main contents of projects. But Marketing and Real Estate are not leading the way in the 2020 development plan any more；
- The content team is more interested in expanding into fields such as Education and Industrial manufacturing, where content customization is smaller and easier to productize , also can bring higher profits.

4

NEW TECHNOLOGY, NEW STIMULATION

Selection of Hardware, Platform and Technology

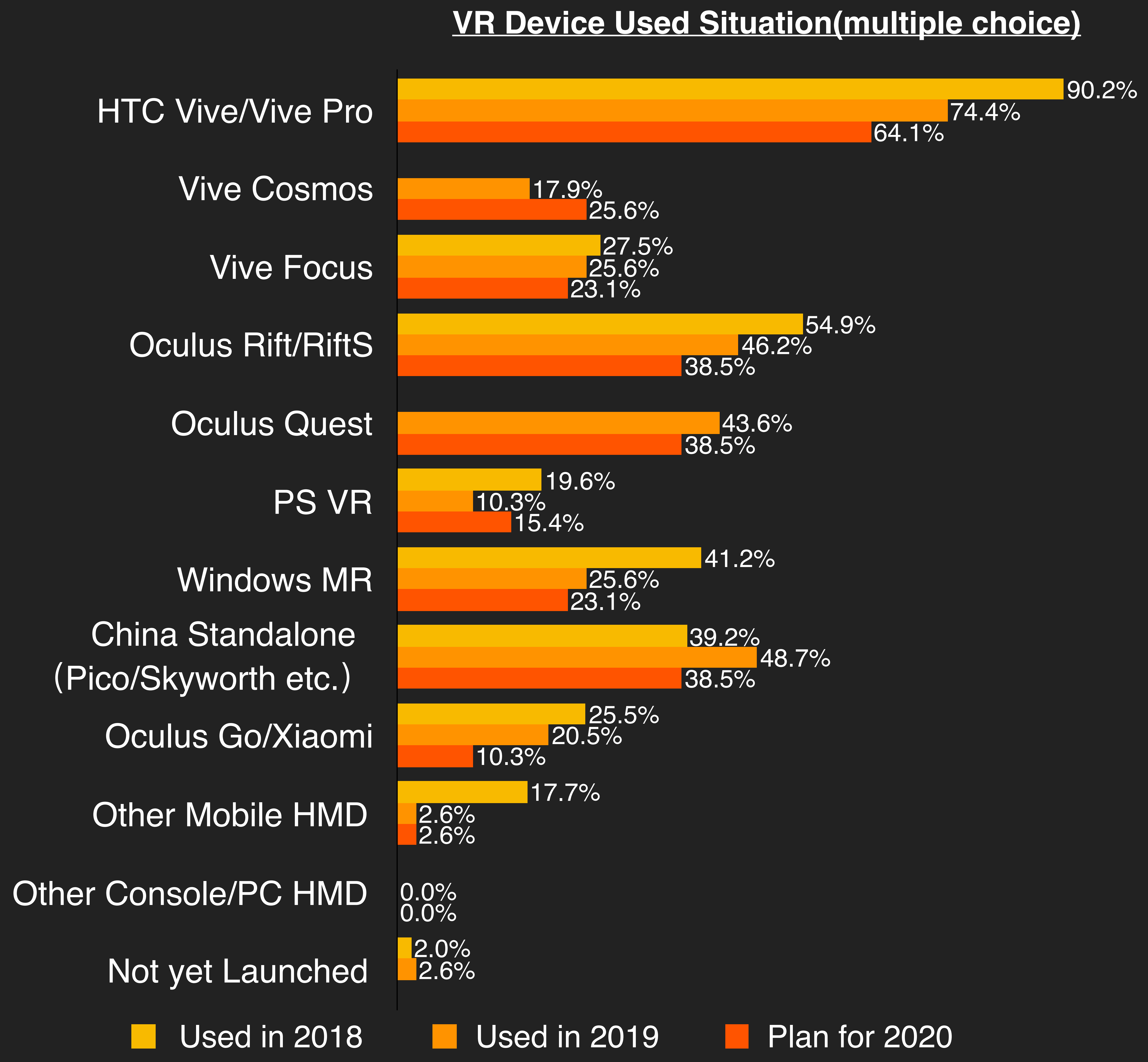
SELECTION OF ENGINE



- In terms of the selection of engine tools, there was no significant difference in usage rate between the two tools. But in the 2020 plan, UE4 has some leading advantages;

- The proportion of content teams using two engines has rapidly increased from about 15% in 2018 to 30% in 2019, and will be further increased to 40% in 2020. Using the two engines can enrich the technical means of the content team and provide more flexible solutions in the face of different needs, so as to enhance the content team's competitiveness in obtaining ToB projects.

SELECTION OF VR DEVICE



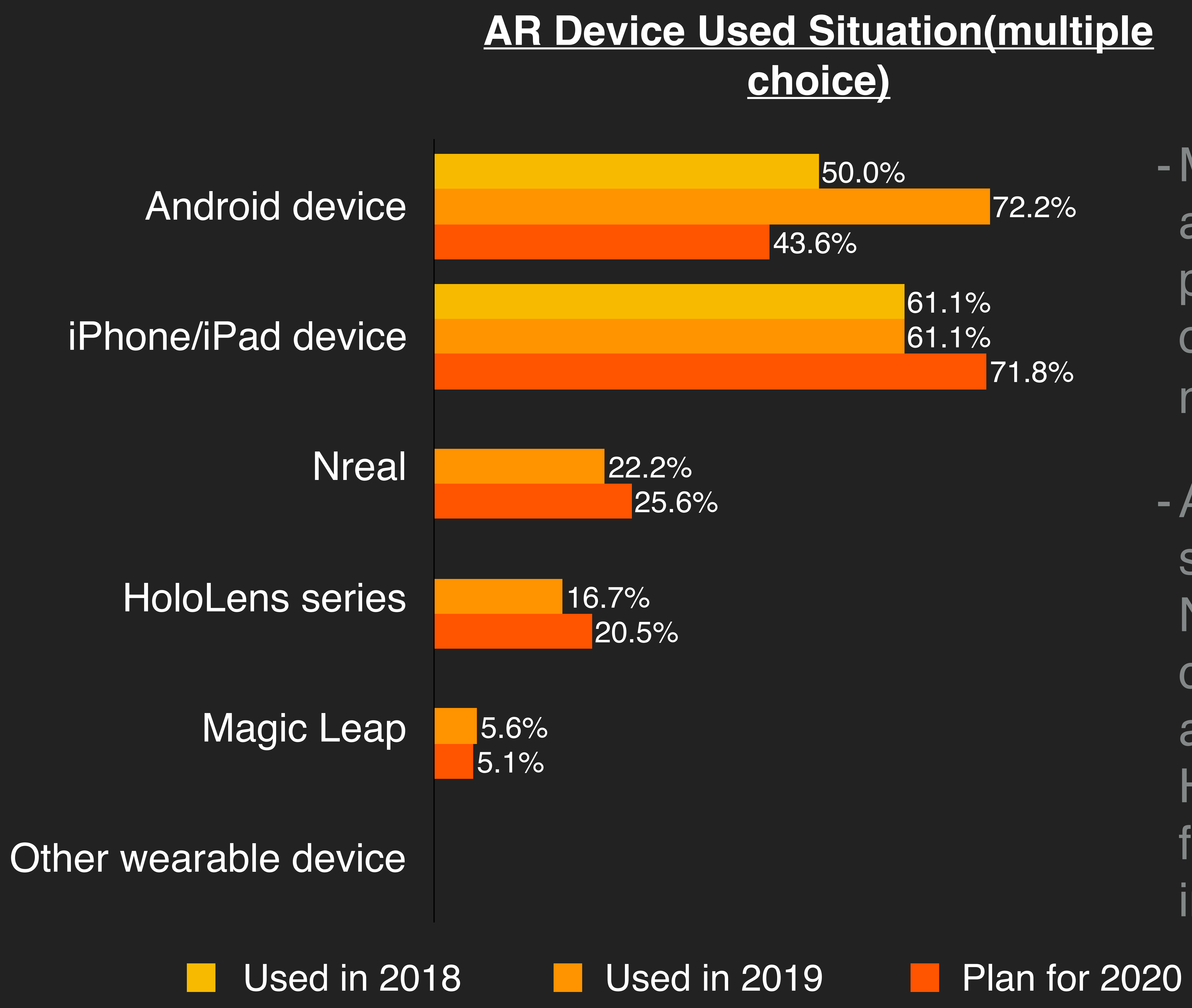
- Overall, the Console /PC HMD's usage rate is decreasing and the Standalone's usage rate is increasing;

- HTC Vive series (CE & Pro) is still the first choice for developers, but its occupation ratio has shrunk dramatically because of the change of developers' development methods. In the past, developers would generally use Vive to develop and then migrate to the target device. But with the accumulation of technology, now some developers will skip Vive and develop the target device directly;

- The usage rate of China Standalone ranks second in 2019. This result is due not only to the increase of ToB projects but also to the improvement of China standalone's performance ;

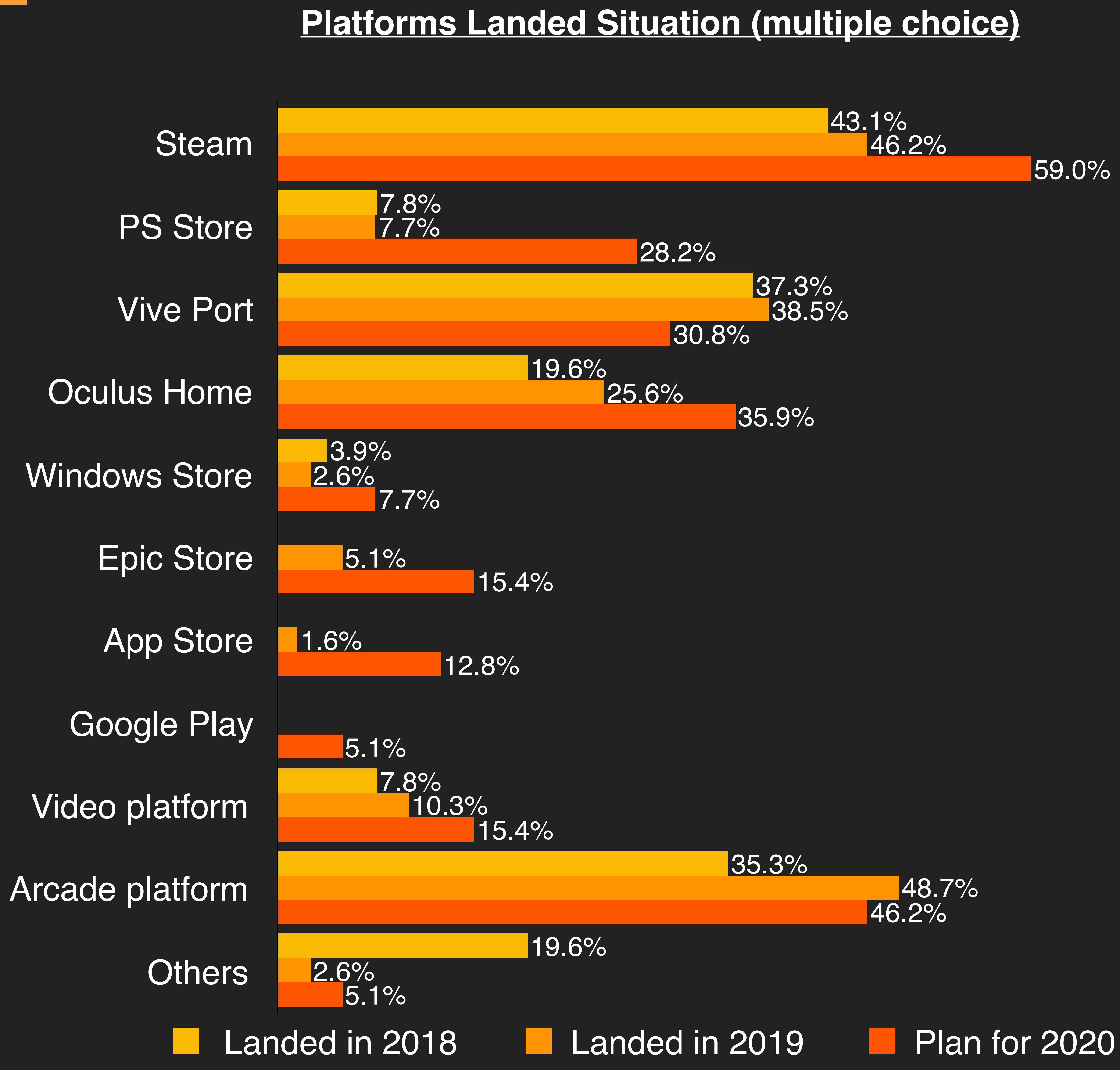
- Vive Cosmos and Oculus Quest, as two key products be launched in 2019, have attracted market attention.

SELECTION OF AR DEVICE



- More mature handheld devices (Android devices and iPhone/iPad devices) are currently the main position for AR content developers. The huge base of this kind of devices can provide a broader market for developers；
- Among wearable devices, Nreal and HoloLens series are more popular with content developers. Nreal as a local enterprise can not only provide competitive equipment, but also provide extensive and in-depth support for China developers. HoloLens series has won a good reputation in ToB field, and has become the first choice of many industry users.

PLATFORMS

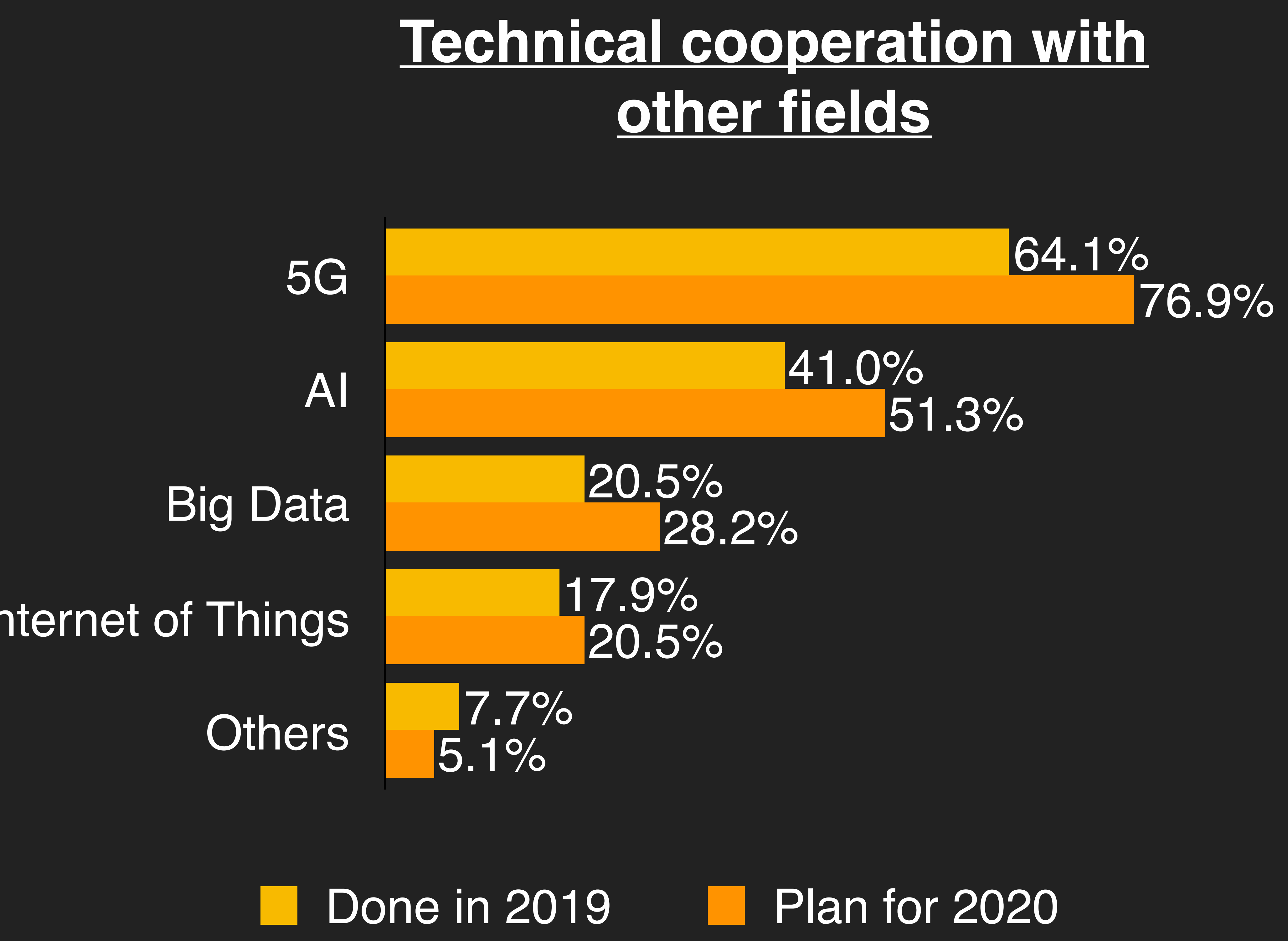


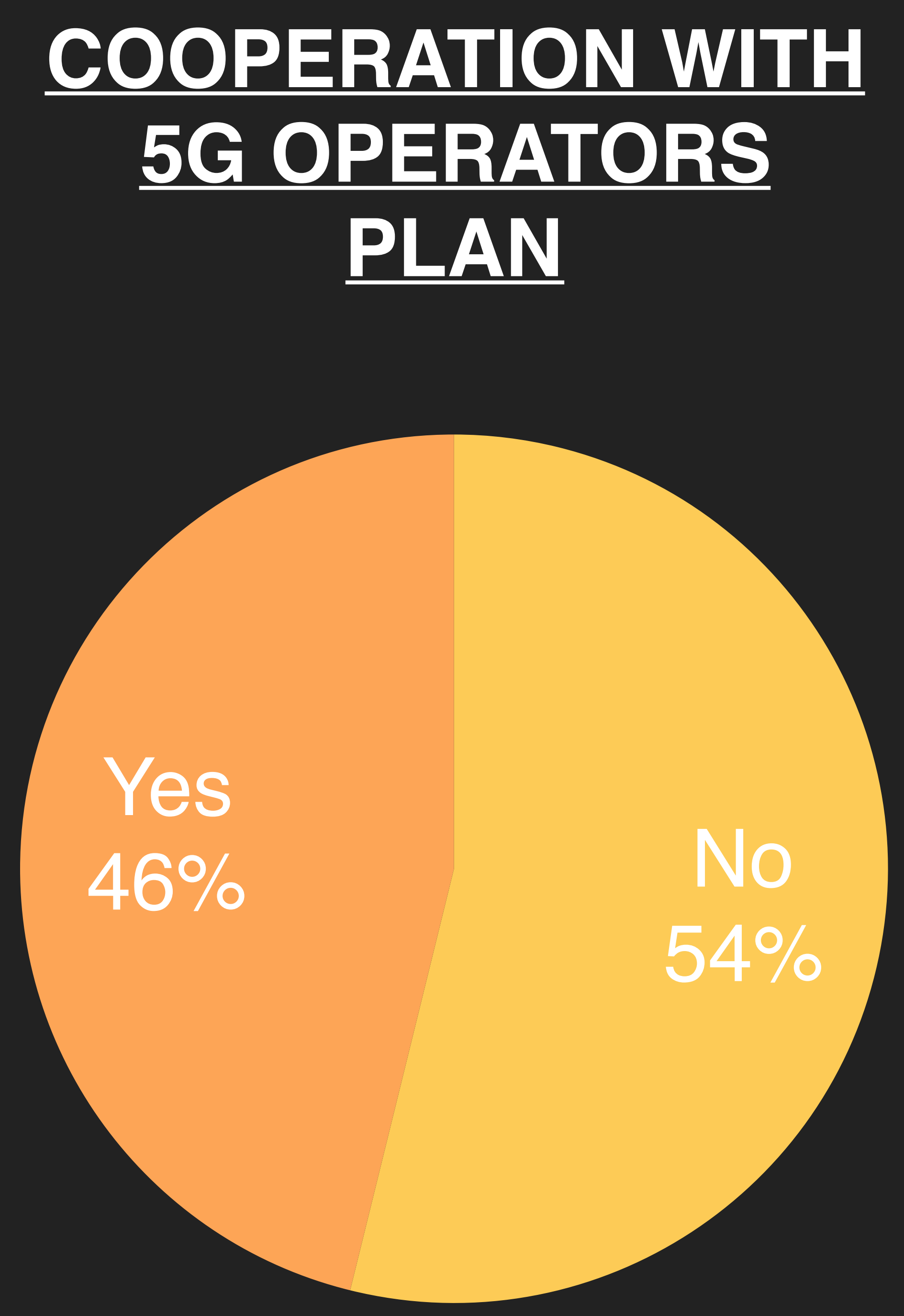
- The Steam platform is still the first choice for developers.The success of 《Half Life: Alyx》will further stimulate developers to log in to the game on Steam；

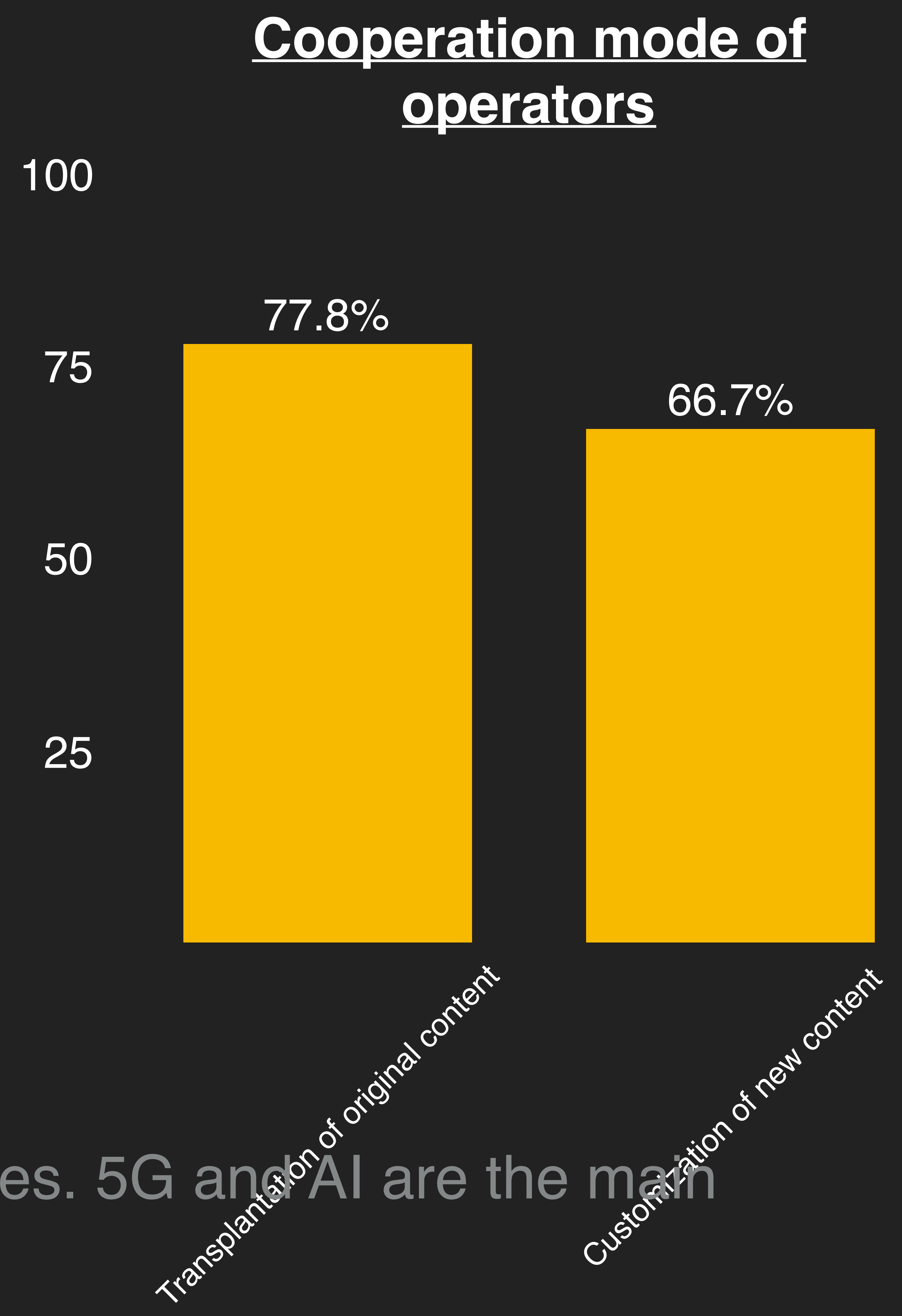
- The good performance of Oculus Quest makes developers focus on Oculus Home again, making Oculus Home becomes the second intended online platform in 2020；

- A new round of LBE(Location-Based Entertainment)'s expansion boom in 2019 has driven developers' willingness to land on offline platforms.But at the beginning of 2020, the occurrence of infectious diseases will have a significant impact on the expansion of offline platforms.

TECHNOLOGY CROSSOVER







- In 2019, XR technology has been gradually combined with more technologies. 5G and AI are the main binding points；

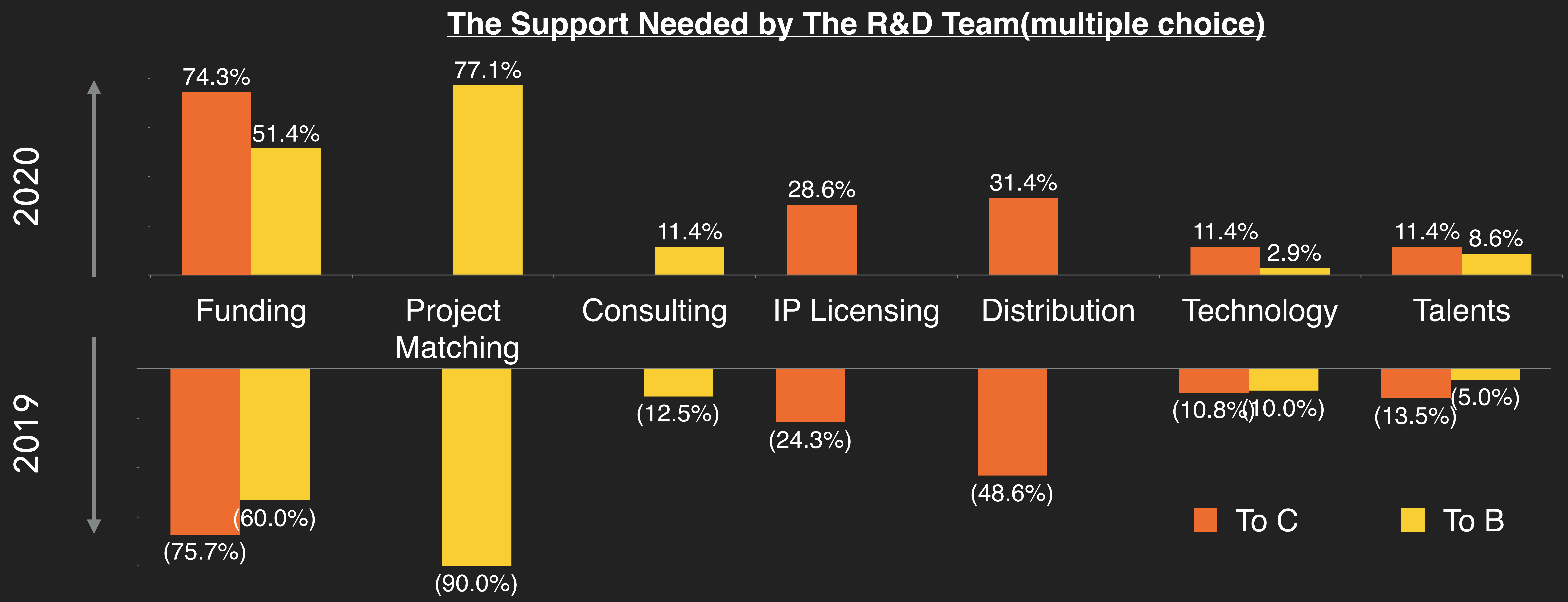
- With the addition of operators, content developers and operators have launched extensive cooperation on 5G technology. In 2019, nearly half of the developers cooperated with the operators by logging content onto their platforms. The main purpose is to help operators complete the rapid expansion of the content through the original content transplantation.

5

TRANSFORMATION AND PERSISTENCE

Development needs of XR content team

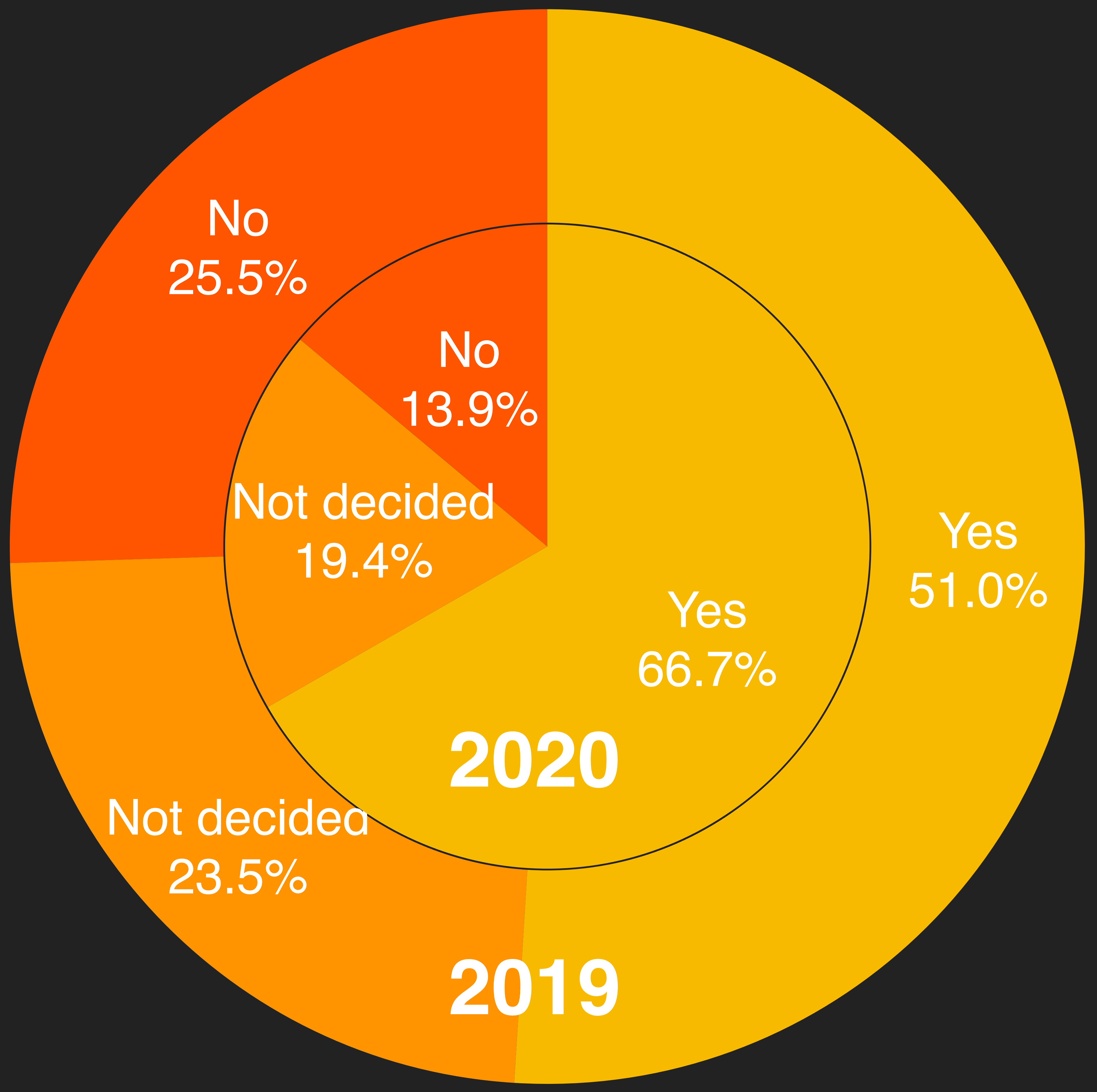
INDUSTRY SUPPORT



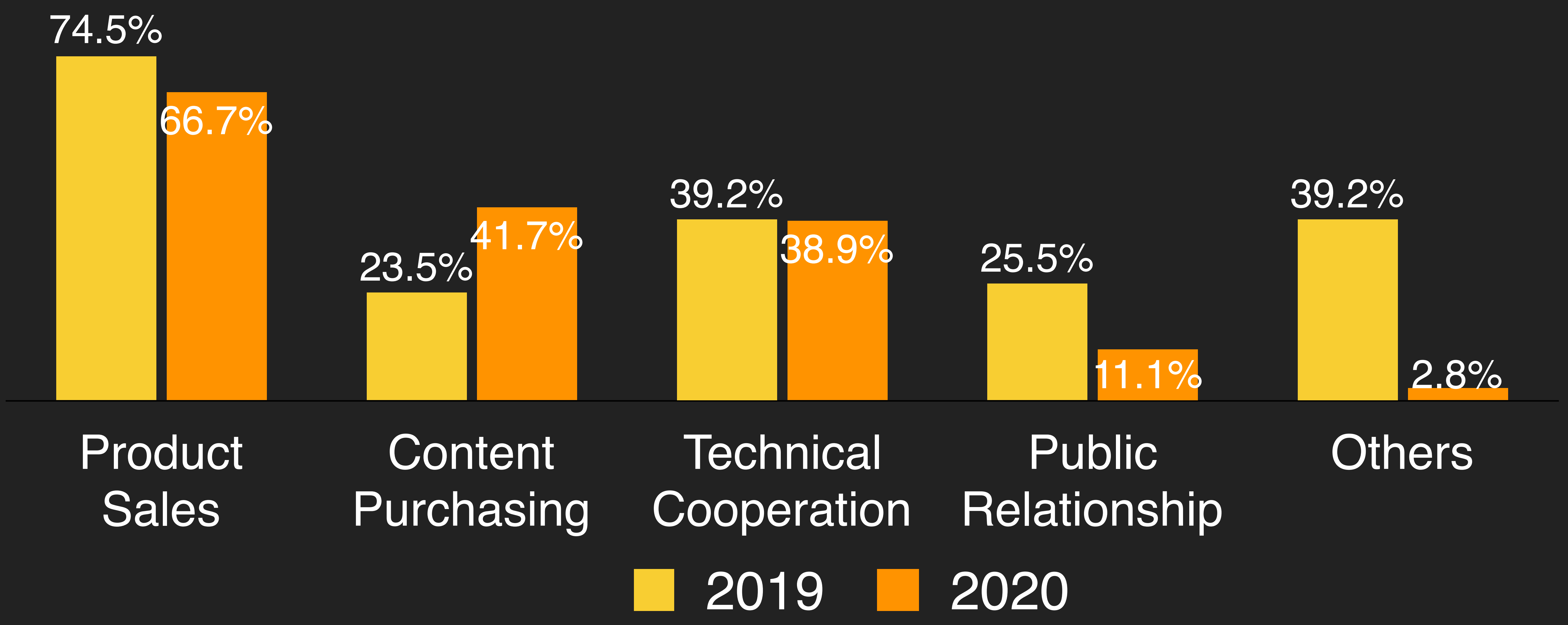
- For the content team, although the financial situation has improved in 2009, the survival pressure is still great. Funding and Project matching are still the main needs of the content team.

OVERSEAS EXPANSION

Overseas Project Plan



Target of Expanding Overseas (multiple choice)



- In 2020, the intention of overseas cooperation of content team will be greatly improved, and the primary purpose is still product sales；

- At the same time, the demand for content purchasing is also on the rise. Many content teams are transforming in ToB business. In addition to their own R&D, they also provide services through the cooperation of purchasing content.

6

CONCLUSION

- Overall, the financial pressure on the XR content developer team in 2019 has eased, but it is still huge. It is still the biggest challenge to realize the healthy operation of cash flow and strive for more income in 2020；

- ToC market has recovered slightly over the past year, but it will take time to develop. So ToB business will still be the main direction for most teams. However, it is expected that the development of ToC content in 2020 will be improved compared with 2019；

- In terms of hardware, it may be difficult to make a great breakthrough or update in 2020, so the occupation ratio of standalone and inside-out devices are expected to increase steadily.；

- 5G and LBE have provided more choices and opportunities for the content development team in 2019. But the occurrence of infectious diseases in 2020 may have different impacts on the development team, so the future market is more uncertain.

VRCORE

THANKS