In 2022, the AdTech industry is on the verge of a significant makeover. In addition to technological changes caused by the phasing out of third-party cookies, real-time bidding systems used for online behavioural advertising (OBA) are subject to fierce criticism by privacy advocacy groups. Moreover, the concerns about privacy deficits in advertising ecosystems are starting to translate into regulatory attention. In February 2022, the Belgian data protection authority sanctioned IAB Europe – the ambassador of one of the largest real-time bidding ecosystems in Europe – for failure to ensure lawful data processing. Considering the recent developments, this paper aims to ascertain how online behavioural advertising is governed by current privacy laws and verify whether the prescribed legal requirements are observed in practice.

Before assessing its legal aspects, it was first necessary to examine online advertising from a technological perspective. The first part of this paper provides an introduction into AdTech and describes the functioning of real-time bidding (RTB) ecosystems, the roles played by publishers, advertisers and AdTech intermediaries, the programmatic bidding process, the data processed and how the data is exchanged between the involved parties. The second part focuses on practices used in advertising to identify and monitor users online, including deterministic methods (such as third-party cookies) and probabilistic methods (such as device fingerprinting).

Subsequently, the empirical findings are contrasted with the requirements of GDPR and ePrivacy Directive. First, it is considered whether data communicated in real-time bidding auctions falls within the protected scope. In this regard, the concept of "reasonable identifiability" promoted by the CJEU is applied to scenarios commonly occurring in online behavioural advertising. Second, the author considers to what extent parties involved in RTB may be responsible for ensuring compliance. The notions of "controller", "processor" and "joint controller" are explored, paying special attention to the role of intermediaries providing standardized software tools.

Finally, the lawfulness of OBA is put to test. After a brief consideration of the exemptions offered by Art. 5 (3) ePrivacy Directive, the author addresses in detail the three legal bases potentially applicable to OBA under GDPR – performance of contract, legitimate interests, and consent. In relation to contract performance, the author proposes an alternative to the current approach of firm rejection of data commoditization. At the end, the practical benefits

of consent for user privacy are questioned in view of evidence pointing to a lack of understanding by consumers and prevalence of dark patterns.